

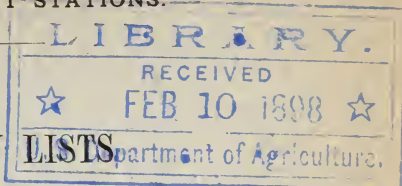
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U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS.

ORGANIZATION

LISTS



OF THE

AGRICULTURAL EXPERIMENT STATIONS

AND

INSTITUTIONS WITH COURSES IN AGRICULTURE

IN THE

UNITED STATES.



JANUARY, 1898.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1898.

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ORGANIZATION LISTS
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LETTER OF TRANSMITTAL.

UNITED STATES DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
Washington, D. C., January 1, 1898.

SIR: I have the honor to transmit herewith manuscript of a bulletin containing the organization list of agricultural colleges and experiment stations, a subject list of publications of the experiment stations received by this Office during 1897, the Federal legislation relating to the colleges and stations, and the rulings of the Treasury, Post-Office, and Agricultural Departments as to the construction of the act of Congress of March 2, 1887, establishing the stations. The matter has been compiled under my direction by Miss S. L. Sommers of this Office, and I recommend its publication as Bulletin No. 47 of this Office.

A. C. TRUE,
Director.

Hon. JAMES WILSON,
Secretary of Agriculture.

LIST OF ABBREVIATIONS.

<i>Agr.</i> , Agriculture, Agriculturist, Agricultural.	<i>Lab.</i> , Laboratory.
<i>Anal.</i> , Analytical.	<i>Lang.</i> , Language, Languages.
<i>Anat.</i> , Anatomy.	<i>Lib.</i> , Librarian.
<i>Arbor.</i> , Arboriculture, Arboriculturist.	<i>Lit.</i> , Literature.
<i>Arch.</i> , Architecture.	<i>Math.</i> , Mathematics.
<i>Arith.</i> , Arithmetic.	<i>Mech.</i> , Mechanics, Mechanical.
<i>Assoc.</i> , Associate.	<i>Met.</i> , Meteorology, Meteorologist.
<i>Asst.</i> , Assistant.	<i>Mil.</i> , Military.
<i>Astron.</i> , Astronomy.	<i>Min.</i> , Mineralogist, Mineralogy.
<i>Bact.</i> , Bacteriology, Bacteriologist.	<i>Myc.</i> , Mycology, Mycologist.
<i>Biol.</i> , Biology, Biologist, Biological.	<i>Path.</i> , Pathology.
<i>Bot.</i> , Botany, Botanist, Botanical.	<i>Pedag.</i> , Pedagogics, Pedagogy.
<i>Chair.</i> , Chairman.	<i>Philos.</i> , Philosophy.
<i>Chem.</i> , Chemist, Chemistry, Chemical.	<i>Phys.</i> , Physics, Physicist, Physical.
<i>Dept.</i> , Department.	<i>Physiol.</i> , Physiology, Physiological, Physiologist.
<i>Dir.</i> , Director.	<i>Polit.</i> , Political.
<i>Econ.</i> , Economy, Economic, Economics.	<i>Prep.</i> , Preparatory.
<i>Elect.</i> , Electrical, Electricity.	<i>Pres.</i> , President.
<i>Engin.</i> , Engineer, Engineering.	<i>Prin.</i> , Principal.
<i>Engl.</i> , English.	<i>Psych.</i> , Psychology.
<i>Ent.</i> , Entomology, Entomologist.	<i>Rhet.</i> , Rhetoric.
<i>Expt.</i> , Experiment, Experimental.	<i>Sci.</i> , Science.
<i>For.</i> , Forestry.	<i>Sec.</i> , Secretary.
<i>Geol.</i> , Geology, Geologist, Geological.	<i>Sta.</i> , Station.
<i>Geog.</i> , Geography.	<i>Sten.</i> , Stenographer, Stenography.
<i>Gov.</i> , Governor.	<i>Supt.</i> , Superintendent.
<i>Hist.</i> , History.	<i>Treas.</i> , Treasurer.
<i>Hort.</i> , Horticulture, Horticulturist.	<i>Univ.</i> , University.
<i>Husb.</i> , Husbandry.	<i>V. Dir.</i> , Vice Director.
<i>Indus.</i> , Industrial, Industries, Industry.	<i>Vet.</i> , Veterinary, Veterinarian.
<i>Instr.</i> , Instructor.	<i>Vit.</i> , Viticulture, Viticulturist.
<i>Irrig.</i> , Irrigation.	<i>Zool.</i> , Zoology, Zoologist.

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E. E. Slosson, M. S., <i>Chem.</i>	
W. C. Knight, M. A., <i>Geol.</i>	Grace R. Hebard, M. A., PH. D., <i>Sec.</i>

INSTITUTIONS WITH COURSES IN AGRICULTURE.

ALABAMA.

Agricultural and Mechanical College of Alabama, *Auburn.*

COURSES OF STUDY.

The courses of study are seven. Five of these require four years each for completion, and lead to the degree of B. S.: Course in chemistry and agriculture, course in mechanics and civil engineering, course in electrical and mechanical engineering, course in pharmacy, and general course. The two remaining courses require two years each, and lead to a certificate: Two years' course in agriculture and two years' course in mechanic arts.

BOARD OF INSTRUCTION.

Wm. Leroy Broun, M. A., LL. D., <i>Pres.</i> ;	E. R. Miller, Ph. C., PHAR. M., M. S., <i>Pharmacy.</i>
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O. D. Smith, M. A., <i>Math.</i>	C. F. Baker, B. S., <i>Ent.</i>
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C. A. Cary, D. V. M., <i>Vet. Sci.</i>	G. M. Holley, B. S., <i>Asst. in Math.</i>
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J. F. Duggar, M. S., <i>Agr.</i>	W. W. Hill, B. S., <i>Asst. in Mech. Arts.</i>
F. S. Earle, <i>Hort. and Biol.</i>	J. Q. Burton, B. S., <i>Asst. in Chem.</i>
	E. B. Joseph, B. S., <i>Asst. in Chem.</i>
	T. G. Conner, B. S., <i>Asst. in Elect. Engin.</i>
	W. J. Nixon, B. S., <i>Asst. in Vet. Sci.</i>
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Agricultural and Mechanical College for Negroes, *Normal.*

COURSES OF STUDY.

The college is divided into two departments, literary and industrial. The courses requiring four years for completion are as follows: Scientific, agricultural, and mechanical. Courses covering from one to three years are given in a number of different industrial and literary subjects.

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B. F. Darrell, B. A., <i>Prin. Dept. Math.</i>	

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ARIZONA.

University of Arizona, Tucson.

COURSES OF STUDY.

Five regular four-year courses leading to the degree of B. S., general, agriculture and horticulture, civil engineering, mechanical and electrical engineering, mining and metallurgy.

BOARD OF INSTRUCTION.

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ARKANSAS.

Arkansas Industrial University, Fayetteville.

COURSES OF STUDY.

The university offers the following courses in the departments at Fayetteville: Three in engineering, leading to the degrees of B. M. E., B. C. E., and B. E. E.; five in science, leading to the degree of B. S., with one of the following subjects as a specialty: Chemistry, botany, zoology, entomology, and geology; four in liberal arts, the classical leading to the degree of B. A., with one of the following subjects as a specialty, viz, ancient languages, modern languages, mathematics, history; four

* On leave until September, 1898.

short courses without degree, students in which at the end of the sophomore year may change to one leading to one of the above degrees, viz, farmers', manual training, normal, and electrical engineering courses. In addition to the above, the medical department and the law department, both at Little Rock, have courses of study leading to the degrees of M. D. and B. L., respectively.

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CALIFORNIA.

College of Agriculture of the University of California, Berkeley.

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S.

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 C. B. Bradley, M. A., *Rhet.*
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 H. H. Hirst, B. S., *Instr. Civ. Engin.*
 L. E. Hunt, B. S., *Instr. Civ. Engin.*
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 J. D. Layman, *Asst. Lib.*
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 J. H. Senger, PH. D., (*Asst.*) *German.*
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 C. C. Plehn, PH. D., (*Assoc.*) *Econ.*
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 A. P. Hayne, PH. B., (*Asst.*) *Vit. and Olive Culture.*
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 J. H. Gray, jr., B. S., *Instr. Chem.*
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 F. H. Payne, M. D., *Medical Examiner in Mil. Dept.*
 Mary B. Ritter, M. D., *Medical Examiner of Women.*
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 F. H. Bartlett, B. A., *Fellow in French.*
 G. W. Beattie, *Reader in Chem.*
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 M. A. M. Centner, *Asst. in German.*
 S. A. Chambers, B. A., *Instr. French.*
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 W. J. V. Osterhout, M. A., *Instr. Bot.*
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 G. F. Reinhardt, B. S., *Asst. in Phys. Culture.*
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 A. J. Pearce, *Asst. in Chem.*
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 F. E. Ross, B. S., *Fellow in Math.*
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COLORADO.

The State Agricultural College of Colorado, Fort Collins.

COURSES OF STUDY.

The courses of study are four, each requiring four years in addition to two years of preparatory work, and each leading to the degree of B. S.: The agricul-

¹ On leave.

tural course, the mechanical engineering course, the irrigation and civil engineering course, and the ladies' course. Provision is made for post-graduate work. The degrees of C. E. and M. E. are conferred upon those worthy of holding them, by faculty action approved by the governing board. A commercial course, covering a period of two years, is established, entrance to which requires the same qualifications as for admission to the freshman class; no degree is given.

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Alston Ellis, M. A., PH. D., LL. D., <i>Pres.</i> :	L. D. Crain, B. M. E., <i>Asst. in Mech. Engin. and Drawing,</i>
<i>Polit. Econ. and Logic.</i>	J. D. Stannard, B. S., <i>Asst. in Phys. and Civil Engin.</i>
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Jacob A. Christman, <i>Prin. Commercial Dept.</i>	Marguerite E. Stratton, B. S., <i>Lib.</i>
Charles Golding-Dwyre, <i>Instr. Bookkeeping.</i>	Frank H. Thompson, B. S., <i>Sten.</i>

CONNECTICUT.

Storrs Agricultural College, Storrs.

COURSE OF STUDY.

The course of study requires two or four years for completion, and in the latter case leads to a degree.

BOARD OF INSTRUCTION.

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H. S. Patterson, <i>Instr. Wood and Iron Work.</i>	

DELAWARE.

Delaware College, Newark.

COURSES OF STUDY.

The courses of study are seven in number and require four years each for completion: The classical course and the Latin scientific course, each leading to the degree of B. A.; the agricultural and the general science courses, each leading to the

degree of B. S.; three courses in engineering, leading to the degrees of B. C. E., B. M. E., and B. E. E. There are also a two years' course and a short winter course of thirteen weeks in agriculture.

BOARD OF INSTRUCTION.

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State College for Colored Students, Dover.

COURSES OF STUDY.

There are five courses of study: Classical, scientific, agricultural, engineering, and normal.

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	John Boyken Aiken, <i>Instr. Practical Agr.</i>

FLORIDA.

Florida Agricultural College, Lake City.

COURSES OF STUDY.

Besides a preparatory department there are four equivalent collegiate courses of study, each requiring four years for completion: The agricultural course, leading to the degree of B. S.; the mechanical course, leading to the degree of B. S.; the Latin scientific course, leading to the degree of B. A.; and the women's course, leading to the degree of B. S.

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J. Franklin Appell, M. D., <i>Surgeon.</i>	
A. L. Quaintance, M. S., (<i>Asst.</i>) <i>Biol.</i>	
J. P. Davies, B. S., <i>Instr. Phys. and Asst. in Chem.</i>	

Florida State Normal and Industrial College, Tallahassee.

COURSES OF STUDY.

The courses of study are seven: Academic, preparatory, normal, manual training, agricultural, domestic economy, and music.

BOARD OF INSTRUCTION.

H. De S. Tucker, M. A., <i>Pres.</i>	T. W. Talley, M. A., <i>Natural Sci.</i>
T. V. Gibbs, <i>Math.</i>	Clara R. Shippen, B. A., <i>Prin. Acad. Dept.</i>
L. D. Hileland, <i>Mech. Arts and Drawing.</i>	Florence M. Butler, <i>Asst. Acad. Dept.</i>
Wm. Hugh Mason, <i>Engl. and Music.</i>	Mrs. F. Reynolds Keyser, <i>Matron.</i>
Mrs. C. B. Tucker, <i>Dairying.</i>	Mrs. Emily Howard, <i>Domestic Econ.</i>
Alexander Cuppage, <i>Agr.</i>	Theresa Smith, <i>Teacher Model School.</i>

GEORGIA.

Georgia State College of Agriculture and Mechanic Arts, Athens.

COURSES OF STUDY.

There are two courses of study, requiring four years each for completion and leading to the degrees of B. S. and B. E.; one three years' course, leading to the degree of B. Agr.; graduate courses of one year each, leading to degrees of M. S., C. E., and M. Agr.; special courses in chemistry, mining, and metallurgy, in agriculture, in electrical engineering, and in building and architecture, in which certificates of attainment are given. There is also a short winter course in agriculture, comprising instruction in the English branches, agriculture, and dairying.

BOARD OF INSTRUCTION.

H. C. White, Ph. D., <i>Pres.; Chem.</i>	J. B. Hunnicutt, B. A., <i>Agr.</i>
L. H. Charbonnier, M. A., Ph. D., <i>Phys.</i>	C. M. Snelling, B. S., <i>Math.; Commandant.</i>
Jno. Morris, M. D., <i>Modern Lang.</i>	C. H. Herty, Ph. D., <i>(Adjunct) Chem.</i>
B. F. Riley, M. A., <i>Engl.</i>	A. H. Patterson, M. A., <i>(Adjunct) Phys. and Elect. Engin.</i>
D. C. Barrow, jr., C. and M. E., <i>Math.</i>	O. E. Sheffield, B. E., <i>Instr. Drawing.</i>
C. M. Strahan, C. and M. E., <i>Engin.</i>	J. M. Stephenson, B. A., <i>Instr. Engl.</i>
John P. Campbell, B. A., Ph. D., <i>Biol.</i>	H. J. Wing, <i>Instr. Dairying.</i>
J. H. T. McPherson, Ph. D., <i>Hist.</i>	T. Lustrat, M. A., <i>Instr. Modern Lang.</i>

IDAHO.

College of Agriculture of the University of Idaho, Moscow.

COURSE OF STUDY.

The regular course in agriculture requires four years for completion and the elementary course two years.

BOARD OF INSTRUCTION.

F. B. Gault, M. S., M. A., <i>Pres.; Sociology, Logic, and Polit. Econ.</i>	S. Annette Bowman, <i>Instr. Drawing.</i>
C. W. McCurdy, D. Sc., Ph. D., <i>Chem.</i>	Sara E. Poe, B. L., <i>Asst. in Engl. Lit.</i>
W. K. Clement, Ph. D., <i>Ancient and Modern Lang.</i>	I. J. Cogswell, <i>Instr. Music.</i>
L. F. Henderson, Ph. B., <i>Bot.</i>	J. J. Anthony, <i>Mech. Arts.</i>
J. M. Aldrich, M. S., <i>Zool.</i>	Florence M. Corbett, B. A., <i>Instr. Latin and Math.</i>
— — — — —, <i>Agr.</i>	Arthur P. Adair, C. E., <i>Asst. in Math. and Engin.</i>
E. R. Chrisman, 1st Lieut. U. S. A., <i>Mil. Sci. and Tactics; (Adjunct) Math.</i>	Flora P. Moore, B. S., <i>Instr. Hist. and German.</i>
Harriet E. Cushman, M. A., <i>Preceptress; Lit.</i>	F. A. Huntley, B. S., <i>Instr. Hort.</i>
J. E. Bonebright, M. A., <i>Phys.</i>	Blanche Schofield, B. A., <i>Instr. Phys. Culture and Engl.</i>
F. G. Frink, B. S., <i>Civil Engin.</i>	Stella M. Allen, Ph. B., <i>Asst. Lib.</i>
Alfred S. Miller, Ph. D., <i>Mining.</i>	— — — — —, <i>Instr. Domestic Econ.</i>

ILLINOIS.

College of Agriculture of the University of Illinois, Urbana.

COURSE OF STUDY.

The regular course requires four years for completion and leads to the degree of B. S. The winter school in agriculture begins in January and continues eleven weeks. Provision is also made for special students.

BOARD OF INSTRUCTION.

Andrew S. Draper, LL. D., <i>Pres.</i>	Arthur W. Palmer, D. Sc., <i>Chem.</i>
Eugene Davenport, M. Agr., <i>Dean; Animal Husb.</i>	Frank F. Frederick, <i>Art and Design.</i>
Thomas J. Burrill, Ph. D., LL. D., <i>Bot. and Hort.</i>	Samuel W. Parr, M. S., <i>Applied Chem.</i>
Stephen A. Forbes, Ph. D., <i>Zool.</i>	David Kindley, Ph. D., <i>Econ.</i>
Charles W. Rolfe, M. S., <i>Geol.</i>	Daniel H. Brush, Capt. 17th Infantry, U. S. A., <i>Mil. Sci.</i>
Donald McIntosh, V. S., <i>Vet. Sci.</i>	Albert P. Carmen, D. Sc., <i>Phys.</i>
Edgar J. Townsend, Ph. M., <i>Math.</i>	George T. Kemp, Ph. D., <i>Physiol.</i>
Evarts B. Greene, Ph. D., <i>Hist.</i>	Frank Smith, M. A., <i>Zool.</i>
Violet D. Jayne, Ph. D., <i>Eng.</i>	Perry G. Holden, M. S., <i>Agr. Phys.</i>
John P. Hylan, Ph. D., <i>Psych.</i>	Chester H. Rowell, Ph. B., <i>German.</i>
Wm. H. Vandervoort, M. E., <i>Mech. Engin.</i>	Agnes S. Cook, B. A., <i>Rhet.</i>
Harry S. Grindley, D. Sc., <i>Chem.</i>	Oscar Quick, M. A., <i>Phys.</i>
T. A. Clark, B. L., <i>Rhet.</i>	Edward J. Lake, B. S., <i>Art and Design.</i>
Herman S. Piatt, M. A., <i>Romance Lang.</i>	Wilbur J. Fraser, B. S., <i>Dairying.</i>
Arthur H. Daniels, Ph. D., <i>Philos.</i>	Joseph C. Blair, <i>Hort.</i>
Charles W. Tooke, M. A., <i>Polit. Sci.</i>	Charles F. Hottes, M. S., <i>Bot.</i>
	Albert R. Curtiss, <i>Woodworking.</i>
	Henry Jones, <i>Blacksmith.</i>

INDIANA.

School of Agriculture, Horticulture, and Veterinary Science of Purdue University, Lafayette.

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S.

BOARD OF INSTRUCTION.¹

James H. Smart, M. A., LL. D., <i>Pres. Univ.</i>	Alexander Wilmer Duff, M. A., B. S., <i>Phys.</i>
William Carroll Latta, M. S., <i>Agr.</i>	Emma Montgomery McRae, M. A., <i>Engl. Lit.</i>
Charles Sumner Plumb, B. S., <i>Animal Indus. and Dairying.</i>	Thomas Francis Moran, Ph. D., <i>Hist. and Polit. Econ.</i>
James Troop, M. S., <i>Hort and Ent.</i>	Glen Levin Swiggett, M. A., <i>German and Spanish.</i>
Arvill Wayne Bitting, B. S., D. V. M., <i>Vet. Sci.</i>	Pauline Mariotte-Davies, Ph. D., <i>French.</i>
Stanley Coulter, Ph. D., <i>Biol.</i>	Joakim Reinhard, M. A., (<i>Asst.</i>) <i>German.</i>
Joseph Charles Arthur, D. Sc., <i>Vegetable Physiol. and Path.</i>	Clarence Abiathar Waldo, Ph. D., (<i>Head</i>) <i>Math.</i>
Winthrop Ellsworth Stone, Ph. D., <i>Chem.</i>	Moses Cobb Stevens, M. A., <i>Math.</i>
Percy Norton Evans, B. S., Ph. D., (<i>Assoc.</i>) <i>Chem.</i>	Thomas Greene Alford, M. A., <i>Math.</i>
Henry Augustus Huston, M. A., A. C., <i>Agr. Chem.</i>	Erastus Test, M. A., M. D., <i>Math.</i>

¹ This list does not include the instructors exclusively engaged in the Schools of Engineering, Science, and Pharmacy.

Laura Anne Fry, <i>Indus. Art.</i>	Mary Doan, B. L., M. S., <i>Instr. Engl.</i>
Anna Embree Baker, B. S., <i>Instr. Wood Carving.</i>	James David Hoffman, M. E., <i>Instr. Wood Shop.</i>
Katherine Eliza Golden, M. S., <i>Instr. Biol.</i>	Charles Bainbridge Peterson, B. C. E., <i>Instr. Mech. Drawing.</i>
William Henry Test, M. S., <i>Instr. Chem.</i>	Samuel Morgan, <i>Asst. in Forge Room.</i>
Severance Burrage, B. S., <i>Instr. Sanitary Sci.</i>	Samuel Warren Miller, U. S. A., 1st Lieut., 5th Infantry, <i>Mil. Sci.</i>
Samuel N. Taylor, PH. D., <i>Instr. Phys.</i>	Frank Homer Curtiss, <i>Phys. Dir.</i>
Edwin Mortimer Blake, PH. D., <i>Instr. Math.</i>	Elizabeth Day Swan, <i>Lib.</i>

IOWA.

Iowa State College of Agricultural and Mechanic Arts, Ames.

COURSES OF STUDY.

The courses of study are eight: The course in agriculture, leading to the degree of B. Agr.; the course in veterinary science, leading to the degree of D. V. M.; the course in mechanical engineering, leading to the degree of B. M. E.; the course in civil engineering, leading to the degree of B. C. E.; the course in electrical engineering, leading to the degree of B. S. in E. E.; the course in mining engineering, leading to the degree of B. M. E.; the course in sciences as related to the industries, leading to the degree of B. S.; and the course for ladies, leading to the degree of B. L.

The veterinary course requires three years for completion; each of the others four years. There are also a two years' course a short winter course in agriculture and and dairying, and group courses in the sciences.

BOARD OF INSTRUCTION.

W. M. Beardshear, M. A., LL. D., <i>Pres.</i>	Miss Gertrude Coburn, B. S., <i>Domestic Psych. and Ethics.</i>
M. Stalker, M. S., V. S., <i>Vet. Sci.</i>	Louis Bevier Spinney, B. M. E., M. S., <i>Phys. and Elect. Engin.</i>
J. L. Budd, M. H., <i>Hort.</i>	Miss Lizzie May Allis, B. A., M. A., <i>French and German.</i>
Edgar William Stanton, M. S., <i>Math. and Econ. Sci.</i>	John A. Craig, B. AGR., <i>Animal Husb.</i>
Gen. James Rush Lincoln, <i>Mil. Sci. and Mining Engin.</i>	William Benjamin Niles, D. V. M., <i>(Asst.) Vet. Sci.</i>
Alfred Allen Bennett, M. S., <i>Chem.</i>	Warren H. Meeker, M. E., <i>(Asst.) Mech. Engin.</i>
Herbert Osborn, M. S., <i>Zool. and Ent.</i>	Samuel Walker Beyer, PH. D., <i>(Asst.) Geol. and Min.</i>
Louis Hermann Pammel, B. AGR., M. S., <i>Bot.</i>	George Lewis McKay, <i>Instr. Dairying and Cheese Making.</i>
James Wilson, M. S. A., <i>Dean in Agr.</i>	Mrs. Irving W. Smith, B. L., <i>Preceptress.</i>
Miss Margaret Doolittle, B. A., <i>Rhet. and Latin.</i>	Adrian M. Newens, <i>Instr. Elocution and Oratory.</i>
George Welton Bissell, M. E., <i>Mech. Engin.</i>	Frank J. Resler, B. A., <i>Dir. of Music and Vocalist.</i>
Anson Marston, C. E., <i>Civil Engin.</i>	Miss Minnie Roberts, B. L., <i>Instr. Math.</i>
William Hillis Wynn, PH. D., D. D., <i>Engl. Lit. and Hist.</i>	Miss Elmina Wilson, B. C. E., C. E., <i>Asst. in Civil Engin.</i>
Julius Buel Weems, PH. D., <i>Agr. Chem.</i>	T. Lenox, <i>Instr. Machine Shops.</i>
Wilbert Eugene Harriman, B. S., M. D., <i>Path., Histology, and Therapeutics.</i>	
Charles F. Curtiss, M. S. AGR., <i>Agr.; Dir. Expt. Sta.</i>	

Edwin Clarke Boutelle, B. M. E., *Instr. Machine Shops.*

Joseph S. Chamberlain, M. S., *Instr. Chem.*

E. C. Potter, *Instr. Carpentry.*

Miss Lola A. Placeway, B. S., *Asst. in Chem.*

J. J. Vernon, B. AGR., *Asst. in Hort.*

Frank W. Bouska, B. AGR., *Asst. in Dairying.*

Clarence Henry Eckles, B. AGR., *Asst. in Dairy Bact.*

Robert A. Craig, D. V. M., *House Surgeon.*

Carleton Roy Ball, B. S., *Asst. in Bot.*

Joseph J. Edgerton, B. S., *Instr. Agr. Phys.; Farm Foreman.*

Robert Combs, PH. G., B. S., *Asst. in Bot.*

Miss Virginia Corbett, B. L., *Instr. Math.*

James Atkinson, B. S. A., *Asst. in Agr.*

George Ditto Sabin, B. M. E., (*Asst.*) *Mech. Engin^r. Dept.*

Miss Vina E. Clark, *Lib., and Instr. Library Work.*

Edith Foster, B. L., (*Asst.*) *Lib.*

W. E. Hoxie, *Hospital Steward.*

Mrs. Elizabeth Resler, B. PH., *Instr. Instrumental Music.*

Mrs. Emma Charlotte Davis, *Instr. Mandolin, Banjo, and Guitar.*

Wilmon Newell, *Asst. in Zool.*

KANSAS.

Kansas State Agricultural College, Manhattan.

COURSES OF STUDY.

The regular course of study requires four years for completion and leads to the degree of B. S. Special and post-graduate courses are also provided. The degree of M. S. is given upon post-graduate study with satisfactory evidence of proficiency, after three years, in science and industrial arts.

BOARD OF INSTRUCTION.

Thomas Elmer Will, M. A., *Pres.; Econ. and Philos.*

Henry M. Cottrell, M. S., *Agr.; Supt. Farm.*

Albert S. Hitchcock, M. S., *Bot.*

Julius T. Willard, M. S., *Applied Chem.*

George F. Weida, PH. D., *Pure Chem.*

Edward W. Bemis, PH. D., *Econ. Sci.*

Oscar Eugene Olin, M. A., *Engl. Lang. and Lit.*

Frank Parsons, B. C. E., *Hist. and Polit. Sci.*

E. E. Faville, M. S. A., *Hort. and Ent.; Supt. Orchards and Gardens.*

Mrs. Helen Campbell, *Household Econ.; Supt. Domestic Sci. Depts.*

John D. Walters, M. S., *Indus. Art and Designing.*

Miss Mary F. Winston, PH. D., *Math.*

Ozni P. Hood, M. S., *Mech. and Engin.; Supt. Workshops.*

Ralph Harrison, 1st Lieut., 2d U. S. Cavalry, *Mil. Sci. and Tactics.*

Alexander B. Brown, M. A., *Music.*

Frederic Augustus Metcalf, O. M., *Oratory.*

Ernest R. Nichols, D. B., M. A., *Phys.*

Paul Fischer, B. AGR., D. V. M., *Vet. Sci.*

Ira D. Graham, M. A., *Sec.; Bookkeeping, Commercial Law, and Accounts.*

Charles S. Davis, *Supt. Printing.*

Miss Harriet Howell, *Supt. Sewing.*

Miss Alice Rupp, *Instr. English.*

Miss Josephine C. Harper, *Instr. Math.*

Miss Julia R. Pearce, B. S., *Lib.*

William L. House, *Foreman Carpenter Shop.*

Thos. E. Layden, B. S., *Asst. in Engin.*

Con Morrison Buck, B. S., *Asst. in Graphics.*

William Baxter, *Foreman Greenhouse.*

Miss Charlotte J. Short, M. S., *Asst. in Household Econ.*

Miss Lorena M. Helder, M. T., *Asst. in Music.*

Enos Harrold, *Foreman Iron Shop.*

Miss Helen H. High, *Asst. in Sewing.*

KENTUCKY.

Agricultural and Mechanical College of Kentucky, Lexington.

COURSES OF STUDY.

The regular courses of study are eight, each requiring four years for completion: The agricultural course, leading to the degree of B. S.; three scientific courses,

leading to the same degree; the classical course, leading to the degree of B. A.; the mechanical engineering course, leading to the degree of M. E.; the civil engineering course, leading to the degree of C. E., and the normal course, leading to the degree of B. Ped. Certificates of proficiency are given to those who do not complete a course undertaken.

BOARD OF INSTRUCTION.

J. K. Patterson, Ph. D., LL. D., <i>Pres.</i> ;	F. Paul Anderson, B. M. E., <i>Mech. Engin.</i>
<i>Metaphysics and Civil Hist.</i>	C. R. Sturdevant, M. E., <i>Elect. Engin.</i>
J. Shackelford, M. A., <i>V. Pres.</i> ; <i>Eng. Lang.</i>	S. M. Swigert, Capt., U. S. A., <i>Mil. Sci.</i>
<i>and Lit.</i>	J. W. Pryor, M. D., <i>Anat. and Physiol.</i>
J. G. White, M. A., <i>Math. and Astron.</i>	W. K. Patterson, M. A., <i>Prin. Academy.</i>
Paul Wernicke, <i>French and German Lang.</i>	J. L. Logan, B. A., <i>Asst. in Academy.</i>
<i>and Lit.</i>	Milford White, B. S., <i>Asst. in Normal Dept.</i>
J. H. Neville, M. A., <i>Latin and Greek Lang.</i>	R. L. Blanton, M. Lit., <i>Asst. in Greek and</i>
<i>and Lit.</i>	<i>Latin.</i>
J. H. Kastle, Ph. D., <i>Chem.</i>	J. M. Davis, B. A., B. S., <i>Asst. in Academy.</i>
R. N. Roark, B. A., <i>Prin. Normal Dept.</i>	V. E. Muncy, B. S., <i>Asst. in Academy.</i>
Arthur M. Miller, <i>Zool. and Geol.</i>	J. H. Wells, B. M. E., <i>Asst. in Mech. Engin.</i>
C. W. Mathews, B. S., <i>Agr., Hort., and Bot.</i>	J. R. Johnson, B. M. E., <i>Asst. in Mech.</i>
J. P. Brooks, C. E., M. A., <i>Civil Engin.</i>	<i>Engin.</i>
M. L. Pence, M. S., <i>Phys.</i>	James Murray, <i>Practical Hort.</i>

LOUISIANA.

Louisiana State University and Agricultural and Mechanical College,
Baton Rouge.

COURSES OF STUDY.

The regular courses of study are six, each requiring four years for completion: The course in agriculture, the course in sugar cultivation and manufacture, the course in mechanics and civil engineering, the Latin science, the general science, and the literary course, the first four leading to the degree of B. S., the others to the degree of B. A. A preparatory department with a course covering one year is also provided.

BOARD OF INSTRUCTION.

T. D. Boyd, M. A., LL. D., <i>Pres.</i>	Charles H. Stumberg, M. A., <i>Modern Lang.</i>
James W. Nicholson, M. A., LL. D., <i>Math.</i>	William H. Dalrymple, M. R. C. V. S., <i>Vet.</i>
William C. Stubbs, Ph. D., <i>Agr.</i>	<i>Sci.</i>
H. A. Morgan, B. S. A., <i>Zool. and Ent.</i>	Lutz Wahl, 2d Lieut., 5th Infantry, U. S.
E. L. Scott, M. A., <i>Ancient Lang.</i>	<i>A., Mil. Sci. and Tactics.</i>
W. D. Taylor, C. E., <i>Phys. and Civil Engin.</i>	D. N. Barrow, B. S., (<i>Asst.</i>) <i>Agr.</i>
C. A. Smith, M. A., Ph. D., <i>Eng.</i>	F. H. Burnette, (<i>Asst.</i>) <i>Hort.</i>
Charles E. Coates, jr., Ph. D., <i>Chem.</i>	Ruffin G. Pleasant, B. A., <i>Instr. Hist. and</i>
W. W. Clendenin, M. A., M. S., <i>Geol. and</i>	<i>Civics.</i>
<i>Min.</i>	Allan W. Jeardeau, <i>Instr. Subfreshman</i>
W. R. Dodson, B. A., B. S., <i>Bot.</i>	<i>Dept.</i>
D. F. Boyd, LL. D., <i>Philos. and Civics.</i>	Charles V. Cusachs, B. A., B. S., <i>Instr.</i>
Thomas W. Atkinson, B. S., C. E., <i>Mech.</i>	<i>Engl. and Spanish.</i>
<i>and Drawing.</i>	

Southern University and Agricultural and Mechanical College, New Orleans.

COURSES OF STUDY.

The courses in agriculture require two and four years for completion, the latter leading to the degree of B. S.

BOARD OF INSTRUCTION.

H. A. Hill, <i>Pres.; Econ. and Mental Sci.</i>	A. B. Kennedy, <i>Engl.</i>
Hugh Jamieson, <i>Agr.</i>	V. L. Roy, <i>Chem. and Phys.</i>
Millard Mithoff, <i>Mech.</i>	W. J. Nickerson, <i>Music.</i>
L. M. Martinet, <i>Math.</i>	Chas. E. Roos, <i>Biol.</i>
E. E. Duncan, <i>Prin. Girls' Indus. Section.</i>	

MAINE.

The University of Maine, Orono.

COURSES OF STUDY.

The courses of study leading to degrees are nine, each requiring four years. These are the Latin scientific course, the scientific course, the chemical course, the agricultural course, the preparatory medical course, the pharmacy course, the civil engineering course, the mechanical engineering course, and the electrical engineering course. The Latin scientific course leads to the degree of B. Ph., the course in civil engineering to B. C. E., the courses in mechanical and electrical engineering to B. M. E., the other courses to B. S. The shorter courses leading to a certificate are as follows: The courses of one and two years in agriculture, the course of two years in pharmacy, and the farmers' training courses of six weeks each in general agriculture, in dairying, and in horticulture.

Abram W. Harris, D. Sc., <i>Pres.</i>	Howard S. Webb, M. E., <i>Mech. Engin.</i>
Merritt C. Fernald, Ph. D., <i>Math.</i>	Fremont L. Russell, V. S., <i>Biol. and Vet. Sci.</i>
George H. Hamlin, C. E., <i>Civil Engin.</i>	Burton S. Lanphear, M. E., <i>Elect. Engin.</i>
Alfred B. Aubert, M. S., <i>Chem.</i>	Edwin B. Nichols, B. A., <i>Modern Lang.</i>
Allen E. Rogers, M. A., <i>Civics.</i>	Wallace S. Elden, M. A., <i>Latin and German.</i>
Walter Flint, M. E., <i>Mech. Engin.</i>	Perley Walker, B. M. E., <i>Mech. Engin.</i>
Lucius H. Merrill, B. S., <i>Agr. Chem.</i>	Reginald Goodell, M. A., <i>Modern Lang.</i>
Francis L. Harvey, Ph. D., <i>Natural Hist.</i>	Harvey W. Thayer, B. A., <i>Modern Lang.</i>
James N. Hart, C. E., <i>Math. and Astron.</i>	Gellert Alleman, Ph. D., <i>Chem.</i>
Welton M. Munson, M. S., <i>Hort.</i>	Ralph K. Jones, B. S., <i>Lib.</i>
Horace M. Estabrooke, M. A., <i>Engl.</i>	Harold S. Boardman, B. C. E., <i>Drawing.</i>
James S. Stevens, Ph. D., <i>Phys.</i>	Charles P. Weston, B. C. E., <i>Phys.</i>
Gilbert M. Gowell, M. S., <i>Animal Indus.</i>	Richard M. Andrews, B. A., <i>Math.</i>
Charles D. Woods, B. S., <i>Agr.</i>	Stanley J. Steward, B. M. E., <i>Shopwork.</i>
Herbert N. Royden, U. S. A., <i>Mil. Sci. and Tactics.</i>	William T. Brastow, B. C. E., <i>Phys.</i>
Nathan C. Grover, C. E., <i>Civil Engin.</i>	Allen Rogers, B. S., <i>Chem.</i>
Wilbur F. Jackman, Ph. C., <i>Pharmacy.</i>	Edwin C. Upton, B. S., <i>Engl.</i>

MARYLAND.

Maryland Agricultural College, College Park.

COURSE OF STUDY.

The course of study requires four years and leads to the degree of B. S. and B. A.

BOARD OF INSTRUCTION.

R. W. Silvester, <i>Pres.; Math.</i>	H. G. Welty, C. E., <i>Phys. and Civil Engin.</i>
R. H. Avey, B. A., <i>V. Pres.; Engl. and Civics.</i>	H. Gwinner, M. E., <i>Mech.</i>
Clough Overton, 1st Lieut., 4th Cavalry, U. S. A., <i>Mil. Sci. and Tactics.</i>	S. S. Buckley, B. S., D. V. S., <i>Vet. Sci.</i>
W. T. L. Taliaferro, B. A., <i>Agr.</i>	H. T. Harrison, <i>Prin. Prep. Dept.</i>
H. B. McDonnell, M. D., B. S., <i>Chem.</i>	H. M. Strickler, B. A., <i>Phys. Culture.</i>
Martin P. Scott, M. D., <i>Natural Hist.</i>	H. T. Welty, B. S., <i>Asst. Chem.</i>
W. G. Johnson, M. A., <i>Ent.</i>	F. P. Veitch, B. S., <i>Asst. Chem.</i>
Jas. S. Robinson, <i>Bot. and Hort.</i>	W. W. Skinner, B. S., <i>Asst. Chem.</i>
Thos. H. Spence, <i>Lang.</i>	J. R. Laughlin, B. S., <i>Asst. Chem.</i>
	F. B. Bomberger, B. S., <i>Asst. in Eng. and Math.</i>
Jos. R. Owens, M. D., <i>Registrar and Treas.</i>	

MASSACHUSETTS.

Massachusetts Agricultural College, Amherst.

COURSE OF STUDY.

The course of study requires four years and leads to the degree of B. S.

BOARD OF INSTRUCTION.

Henry H. Goodell, LL.D., <i>Pres.</i> ; <i>Modern Lang.</i>	James B. Paige, D. V. S., <i>Vet. Sci.</i>
Levi Stockbridge, <i>Agr. (Honorary)</i> .	William M. Wright, 1st Lieut., 2d Infantry, U. S. A., <i>Mil. Sci. and Tactics</i> .
Chas. A. Goessmann, Ph. D., LL.D., <i>Chem.</i>	George E. Stone, Ph. D., <i>Bot.</i>
Samuel T. Maynard, B. S., <i>Hort.</i>	John E. Ostrander, C. E., <i>Engin. and Math.</i>
Chas. Wellington, Ph. D., (<i>Assoc.</i>) <i>Chem.</i>	Herman Babson, B. A., <i>Asst. in Engl.</i>
Charles H. Fernald, Ph. D., <i>Zool.</i>	Edward R. Flint, Ph. D., <i>Asst. in Chem.</i>
Rev. Charles S. Walker, Ph. D., <i>Mental and Polit. Sci.</i>	Fred S. Cooley, B. S., <i>Asst. in Agr.</i>
William P. Brooks, Ph. D., <i>Agr.</i>	Richard S. Lull, M. S., <i>Asst. in Zool.</i>
George F. Mills, M. A., <i>Engl. and Latin.</i>	Ralph E. Smith, B. S., <i>Instr. German and Bot.</i>
Philip B. Hasbrouck, B. S., <i>Asst. in Math.</i>	
Robert W. Lyman, LL. D., <i>Lecturer on Farm Law.</i>	

MICHIGAN.

Michigan Agricultural College, Agricultural College.

COURSES OF STUDY.

The courses of study are three, each requiring four years for completion and leading to the degree of B. S.: The agricultural course, the mechanical course, and the women's course. A post-graduate course is also provided.

BOARD OF INSTRUCTION.

J. L. Snyder, M. A., Ph. D., <i>Pres.</i>	Warren Babcock, jr., B. S., (<i>Asst.</i>) <i>Math.</i>
R. C. Kedzie, M. A., M. D., <i>Chem.</i> ; <i>Curator Chem. Lab.</i>	Edith F. McDermott, <i>Domestic Econ. and Household Sci.</i>
William J. Beal, M. S., Ph. D., <i>Bot. and For.</i> ; <i>Curator Bot. Museum.</i>	Mrs. Linda E. Landon, <i>Lib.</i>
Levi R. Taft, M. S., <i>Hort. and Landscape Gardening</i> ; <i>Supt. Hort. Dept.</i>	H. W. Mumford, B. S., (<i>Asst.</i>) <i>Agr.</i>
Howard Edwards, M. A., LL. D., <i>Engl. Lit. and Modern Lang.</i>	R. H. Pettit, B. S., <i>Instr. Zool.</i>
Herman K. Vedder, C. E., <i>Math.</i>	A. L. Westcott, B. M. E., <i>Instr. Mech. Engin.</i>
Harry H. Bandholtz, 1st Lieut., 7th Infantry, U. S. A., <i>Mil. Sci. and Tactics</i> .	D. J. Crosby, B. S., <i>Instr. Engl.</i>
I. H. Butterfield, <i>Sec.</i>	M. W. Fulton, B. S., <i>Instr. Agr.</i>
C. D. Smith, M. S., <i>Agr.</i> ; <i>Supt. Farm.</i>	B. O. Longyear, <i>Instr. Bot.</i>
C. L. Weil, B. S., <i>Mech. Engin.</i>	William O. Beal, B. A., <i>Instr. Math.</i>
W. B. Barrows, B. S., <i>Zool. and Physiol.</i> ; <i>Curator General Museum.</i>	G. H. True, B. S., <i>Instr. Dairying.</i>
Frank S. Kedzie, M. S., (<i>Adjunct</i>) <i>Chem.</i>	C. E. Marshall, Ph. B., (<i>Asst.</i>) <i>Bact.</i>
George A. Waterman, <i>Vet. Sci.</i>	H. E. Smith, B. S., <i>Instr. Mech. Engin.</i>
William S. Holdsworth, M. S., (<i>Asst.</i>) <i>Drawing.</i>	Mrs. Jennie J. L. Hainer, <i>Instr. Sewing.</i>
P. B. Woodworth, B. S., M. E., (<i>Asst.</i>) <i>Phys.</i>	K. L. Butterfield, B. S., <i>Supt. Farmers' Institutes and College Field Agent.</i>
Alvin B. Noble, Ph. B., (<i>Asst.</i>) <i>Engl. Lit. and Modern Lang.</i>	Thomas Gunson, <i>Foreman Greenhouses.</i>
C. F. Wheeler, B. S., (<i>Asst.</i>) <i>Bot.</i>	F. C. Kenney, <i>Asst. Sec.</i>
W. O. Hedrick, M. S., (<i>Asst.</i>) <i>Hist., and Polit. Econ.</i>	Ernest Wittstock, <i>Foreman Farm.</i>
	W. S. Leonard, <i>Foreman Machine Shops.</i>
	Thos. Durkin, <i>Foreman Hort. Dept.</i>
	C. E. Hoyt, <i>Foreman Woodshops and Foundry.</i>
	E. S. Good, <i>Clerk to Pres.</i>
	Chace Newman, <i>Clerk Mech. Dept.</i>

MINNESOTA.

College of Agriculture of the University of Minnesota, *St. Anthony Park.*

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. Agr. Instruction in a number of subjects included in the course in agriculture is given by the faculty of the college in science, literature, and the arts.

BOARD OF INSTRUCTION.

Cyrus Northrop, LL. D., <i>Pres.</i>	Harry Snyder, B. S., <i>Agr. Chem.</i>
William M. Liggett, <i>Dean.</i>	T. L. Haecker, <i>Dairy Husb.</i>
Samuel B. Green, B. S., <i>Hort.</i>	M. H. Reynolds, M. D., V. M., <i>Vet. Medicine and Surgery.</i>
Otto Luggen, Ph. D., <i>Ent.</i>	Willet M. Hays, M. Agr., <i>Agr.</i>
Henry W. Brewster, Ph. D., <i>Math.</i>	Thomas Shaw, <i>Animal Husb.</i>

MISSISSIPPI.

Mississippi Agricultural and Mechanical College, *Agricultural College.*

COURSES OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S. Post-graduate courses and a preparatory course are also provided.

BOARD OF INSTRUCTION.

S. D. Lee, LL. D., <i>Pres.</i>	J. C. Robert, D. V. M., <i>Vet. Sci.</i>
W. C. Welborn, M. S., <i>Agr.</i>	B. W. Kilgore, M. S., <i>Chem.</i>
A. B. McKay, B. S., <i>Hort.</i>	W. H. Magruder, M. A., <i>Engl.</i>
A. J. Wiechardt, M. M. E., <i>Mech. Arts.</i>	B. M. Walker, M. S., <i>Math.</i>
G. W. Herrick, B. S., <i>Biol.</i>	J. W. Fox, M. S., (<i>Assoc.</i>) <i>Math.</i>
J. M. White, M. S., <i>Hist., Civics, Psych., and Ethics.</i>	J. S. Wier, B. S., <i>Instr. Drawing, Blacksmith and Foundry Work.</i>
F. J. Weddell, B. S., (<i>Asst.</i>) <i>Engl.</i>	M. D. King, B. S., <i>Sten.</i>
R. W. Barnett, B. S., (<i>Asst.</i>) <i>Prep. Dept.</i>	A. M. Maxwell, <i>Instr. Writing and Book-keeping.</i>
W. H. Barr, M. D., <i>Surgeon.</i>	W. J. Gallaway, <i>Steward and Janitor.</i>
R. C. King, B. S., <i>Sec. and Purchasing Agent.</i>	J. F. Montgomery, <i>Foreman Farm.</i>
H. H. Ludlow, 3d Artillery, U. S. A., <i>Mil. Sci. and Tactics; Asst. Math.</i>	E. A. Grosvenor, <i>Hospital Nurse.</i>
C. E. Ard, B. S., <i>Instr. Drawing and Carpentry.</i>	C. T. Ames, B. S., <i>Foreman Hort. Dept.</i>
W. L. Hutchinson, M. S., <i>Dir. Expt. Station.</i>	J. C. Herbert, M. S., <i>Prin. Prep. Dept.</i>
J. S. Carroll, M. S., <i>Asst. Chem.</i>	J. E. McKell, B. S., <i>Asst. Mech. Arts.</i>
E. W. Magruder, B. A., M. S., <i>Asst. Chem.</i>	W. F. Hand, M. S., <i>Asst. Chem.</i>
	Miss M. C. McKay, <i>Lib.</i>
	J. S. Wallace, B. S., (<i>Asst.</i>) <i>Prep. Dept.</i>

Alcorn Agricultural and Mechanical College, *Westside.*

COURSES OF STUDY.

The courses of study are two: The industrial course of five years, and the scientific course, requiring four years for completion, and leading to the degree of B. S.

BOARD OF INSTRUCTION.

Rev. E. H. Triplett, <i>Pres.</i>	C. A. Snodgrass, B. S., <i>Tutor; Band Instr.</i>
Andrew J. Howard, M. A., <i>Math.</i>	Herbert A. Clark, <i>Engl. and Prin. Commercial Dept.</i>
G. J. Williams, B. S., (<i>Asst.</i>) <i>Math.</i>	

Henry L. Stiles, B. S., (<i>Asst.</i>) <i>Engl. ; Music Dir.</i>	M. L. Logan, <i>Instr. Blacksmithing.</i>
A. M. Davis, B. S., <i>Tutor.</i>	T. A. Greene, <i>Instr. Printing.</i>
Joseph Anderson, M. A., <i>Sci. and Lib.</i>	A. J. Wade, <i>Instr. Shoemaking.</i>
B. F. Ousley, B. D., <i>Tutor; College Chaplain.</i>	A. O. Coffin, Ph. D., <i>Sec. College.</i>
J. M. Hicks, B. S., <i>Agr. and Supt. Farm.</i>	J. N. Beck, M. D., <i>College Physician.</i>
J. B. Bemis, <i>Instr. Carpentry.</i>	Rev. W. H. Jernagin, <i>Steward Boarding Hall.</i>

MISSOURI.

College of Agriculture and Mechanic Arts of the University of Missouri.
Columbia.

COURSES OF STUDY.

The course of study requires four years for completion and leads to the degree of B. Agr. There are also three short courses: A lecture course in agriculture of three months, a school of horticulture of three months, and a two years' elementary course. The college also offers a post-graduate course, which requires two years for completion and leads to the degree of M. Agr.

BOARD OF INSTRUCTION.

R. H. Jesse, LL. D., <i>Pres.</i>	W. Ophuls, Ph. D., <i>Bact.</i>
H. J. Waters, B. S. A., <i>Dean.</i>	M. L. Lipscomb, M. A., <i>Phys.</i>
P. Schweitzer, Ph. D., <i>Agr. Chem.</i>	W. A. Thurston, Lieut. U. S. A., <i>Mil. Sci.</i>
F. B. Mumford, M. S., <i>Agr.</i>	C. F. Marbut, B. S., <i>Geol. and Min.</i>
J. C. Whitten, B. S., <i>Hort.</i>	C. W. Marx, B. E., <i>Supt. School Mech. Arts.</i>
E. A. Allen, Litt. D., <i>Engl.</i>	W. G. Brown, Ph. D., <i>Chem.</i>
Howard Ayers, Ph. D., <i>Biol.</i>	Sidney Calvert, B. S., <i>Asst. in Chem.</i>
T. J. Rodhouse, B. S., <i>Drawing.</i>	R. B. Moore, M. A., <i>Asst. in Chem.</i>
E. J. Mason, B. S., <i>Asst. Mech. Arts.</i>	W. C. Tindall, M. A., M. S., <i>Math.</i>
M. Estelle Porter, B. L., <i>Bookkeeping.</i>	I. Loeb, M. S., LL. B., <i>Asst. in Hist.</i>
J. W. Connaway, M. D. C., M. D., <i>Vet. Sci.</i>	H. C. Penn, M. A., <i>Asst. in Engl.</i>
F. C. Hicks, B. A., Ph. D., <i>Polit. Econ.</i>	R. H. Switzler, <i>Asst. in Math.</i>
J. M. Stedman, B. S., <i>Ent.</i>	W. W. Griffith, B. S., <i>Asst. in Phys.</i>
C. Thom, B. S., <i>Asst. in Bot.</i>	

MONTANA.

The Montana College of Agriculture and Mechanic Arts, Bozeman.

COURSES OF STUDY.

The following courses are given: Four-year courses in mechanical engineering and chemistry, leading to a degree; four-year course in agriculture; two-year course in domestic science; and business and preparatory courses.

BOARD OF INSTRUCTION.

James Reid, B. A., <i>Pres.; Mental and Moral Sci., Econ., International Law.</i>	Mrs. F. E. Marshall, <i>Art.</i>
S. M. Emery, <i>Hort.</i>	Miss Lilla A. Harkins, <i>Instr. Domestic Sci.</i>
Frank W. Traphagen, Ph. D., F. C. S., <i>Phys., Chem., and Geol.</i>	W. M. Cobleigh, M. E., <i>Asst. in Chem. and Phys.</i>
W. H. Williams, B. S., <i>Mech. Engin. and Math.</i>	H. S. Jennings, Ph. D., <i>Biol. and Bot.</i>
Frank Beach, M. S., <i>Irrig. Engin. and Agr.</i>	Miss M. A. Cantwell, <i>Prin. Prep. Dept.</i>
E. V. Wilcox, Ph. D., <i>Zool. and Ent.</i>	Miss May Travis, M. A., <i>Asst. in Prep. Dept. and Math.</i>
Will F. Brewer, B. A., <i>Hist., Latin and Engl.</i>	H. G. Phelps, <i>Business Dept.</i>
	Stella Shaff, <i>Sten. and Typewriting.</i>
	Miss Kate P. Calvin, <i>Piano.</i>

NEBRASKA.

The Industrial College of the University of Nebraska, *Lincoln.*

COURSES OF STUDY.

The courses of study are as follows, each requiring four years for completion and leading to the degree of B. S.: Agricultural group, biological group, chemical-physical group, civil engineering group, electrical and steam engineering group, municipal engineering group, general scientific group, and mathematical-physical group. One and three year courses in elementary agriculture and a course in dairying are also provided in the school of agriculture. There is also a sugar school and a school of mechanic arts.

BOARD OF INSTRUCTION.

George E. MacLean, PH. D., LL. D., <i>Chancellor.</i>	P. B. Burnet, M. A., <i>Germanic Lang.</i>
Charles E. Bessey, PH. D., <i>Dean; Bot.</i>	Amanda Heppner, M. A., <i>Germanic Lang.</i>
T. Lyttleton Lyon, B. S. A., <i>Agr.</i>	F. W. Card, M. S., <i>Hort.</i>
R. S. Hiltner, M. A., <i>Agr. Chem.</i>	G. E. Barber, M. A., <i>Latin Lang. and Lit.</i>
H. W. Caldwell, M. A., <i>American Hist. and Civics.</i>	E. W. Davis, PH. D., <i>Math.</i>
H. H. Nicholson, M. A., <i>Chem.</i>	T. M. Hodgman, M. A., <i>Math.</i>
John White, PH. D., <i>Chem.</i>	A. L. Candy, M. A., <i>Math.</i>
Rosa Bouton, M. A., <i>Chem.</i>	G. R. Chatburn, B. C. E., <i>Math. and Civil Engin.</i>
Samuel Avery, PH. D., <i>Chem.</i>	G. D. Swezey, M. A., <i>Met.</i>
O. V. P. Stout, C. E., <i>Civil Engin.</i>	J. M. Stotsenburg, 1st Lieut., 6th Cav- alry, U. S. A., <i>Mil. Sci. and Tactics.</i>
R. B. Owens, E. E., <i>Elect. and Steam Engin.</i>	Anne Baur, <i>Phys. Training.</i>
Wm. Hand Browne, jr., <i>Elect. and Steam Engin.</i>	D. B. Brace, PH. D., <i>Phys.</i>
C. F. Ansley, B. A., <i>Engl.</i>	B. E. Moore, M. A., <i>Phys.</i>
E. A. Thurber, M. A., <i>Engl.</i>	L. T. More, PH. D., <i>Phys.</i>
P. H. Frye, B. A., <i>Engl.</i>	W. G. L. Taylor, LL. B., <i>Polit. and Econ. Sci.</i>
L. A. Sherman, PH. D., <i>Engl. and Engl. Lit.</i>	C. R. Richards, M. M. E., <i>Practical Mech.</i>
H. C. Peterson, PH. D., <i>Engl. Lit.</i>	R. E. Chandler, M. M. E., <i>Practical Mech.</i>
Lawrence Bruner, B. S., <i>Ent.</i>	A. H. Edgren, PH. D., <i>Romance Lang., San- scrit, and Comparative Philology.</i>
F. M. Fling, PH. D., <i>European Hist.</i>	Clara Conkling, M. A., <i>Romance Lang.</i>
E. H. Barbour, PH. D., <i>Geol.</i>	H. B. Ward, PH. D., <i>Zool.</i>
Wm. W. Hastings, M. A., PH. D., <i>Hygiene and Dir. Gymnasium.</i>	R. H. Wolcott, M. D., M. A., <i>Zool.</i>
Laurence Fossler, M. A., <i>Germanic Lang.</i>	John D. Epes, B. A., <i>Acting Lib.</i>

NEVADA.

School of Agriculture of the Nevada State University, *Reno.*

COURSES OF STUDY.

The regular course requires four years for completion and leads to the degree of B. S. A short course in agriculture is also provided, requiring five months of each year for four years and leading to no degree.

BOARD OF INSTRUCTION.

Joseph E. Stubbs, M. A., D. D., LL. D., <i>Pres.</i>	F. H. Hillman, M. S., <i>Ent. and Bot.</i>
Hannah K. Clapp, M. A., <i>Instr. in Engl.</i>	Mrs. Mary W. Emery, M. A., <i>Pedag.; Prin. Normal School.</i>
W. McN. Miller, B. S., <i>Anat., Phys., and Geol.</i>	Robert Lewers, <i>Polit. Econ. and Commer- cial Law.</i>
R. D. Jackson, PH. B., <i>Mining, Metal- lurgy, and Assaying.</i>	E. W. Hubbard, 1st Lieut., 3d Artillery, U. S. A., <i>Mil. Sci. and Tactics and Civil Engin.</i>
J. Warne Phillips, D. Sc., <i>Chem. and Phys.</i>	

R. H. McDowell, B. S., *Agr. and Hort.*
 T. W. Cowgill, M. A., *Engl.*
 Richard Brown, *Supt. Mech. Dept.*
 Henry Thurtell, B. S., *Mech. and Math.*
 James E. Church, jr., B. A., *Latin.*

Charles P. Brown, B. S., *Drawing and Math.*
 Laura De Laguna, B. A., *French, German, and Spanish.*
 Anna H. Martin, M. A., *Hist.*

NEW HAMPSHIRE.

New Hampshire College of Agriculture and the Mechanic Arts, Durham.

COURSES OF STUDY.

There are five courses of study, each requiring four years for completion and leading to the degree of B. S.: Course in agriculture, course in chemistry, course in mechanical engineering, course in electrical engineering, and general course (open to women). Also a two years' course in agriculture not leading to any collegiate degree.

BOARD OF INSTRUCTION.

C. S. Murkland, M. A., Ph. D., <i>Pres.</i>	Albert Kingsbury, M. E., <i>Mech Engin.</i>
Chas. H. Pettee, M. A., C. E., <i>Dean; Math. and Civil Engin.</i>	H. H. Lamson, M. D., <i>Bot. and Bact.</i>
Clarence W. Scott., M. A., <i>Hist. and Polit. Sci.</i>	Arthur S. Nesbit, B. S., M. A., <i>Instr. Elect. Engin. and Phys.</i>
F. Wm. Rane, B. Agr., M. S., <i>Agr. and Hort.</i>	Ned Dearborn, <i>Instr. Eng. and Math.</i>
Clarence M. Weed, D. Sc., <i>Zool. and Ent.</i>	Charles H. Kinne, B. A., Ph. D., <i>Instr. Modern Lang.</i>
Fred. W. Morse, B. S., <i>Organic Chem.</i>	Joseph H. Hawes, <i>Drawing and Math.</i>
Chas. L. Parsons, B. S., <i>General and Anal. Chem.</i>	Ernest B. MacCready, B. S., <i>Instr. Chem.</i>
Hollis C. Clark, 2d Lieut., U. S. A., <i>Mil. Sci.</i>	C. H. Waterhouse, <i>Instr. Dairying.</i>
	John N. Brown, <i>Foreman Machine Work.</i>
	Geo. H. Furbish, <i>Foreman Woodwork.</i>
	Ralph W. Crossman, <i>Clerk.</i>
	Clement S. Morris, <i>Purchasing Agent.</i>

NEW JERSEY.

Rutgers Scientific School, the New Jersey State College for the Benefit of Agriculture and the Mechanic Arts, New Brunswick.

COURSES OF STUDY.

There are five distinct courses of study: A course in agriculture, a course in civil engineering and mechanics, a course in chemistry, a course in electricity, and a course in biology. Each course requires four years for completion and leads to the degree of B. S.

BOARD OF INSTRUCTION.

Austin Scott, Ph. D., LL. D., <i>Pres.; Hist. and Polit. Sci.</i>	Rev. Charles Edward Hart, D. D., <i>Ethics, Evidences of Christianity, and the Engl. Bible.</i>
Rev. Jacob Cooper, D. D., D. C. L., LL. D., <i>Logic and Mental Philos.</i>	Louis Bevier, jr., Ph. D., <i>Greek Lang. and Lit.; Sec. Extension Dept.</i>
Rev. Carl Meyer, D. D., <i>Modern Lang. and Lit.</i>	Edgar Solomon Shumway, Ph. D., <i>Latin Lang. and Lit.</i>
Francis Cuyler Van Dyck, Ph. D., <i>Phys. and Expt. Mech.</i>	Alfred Alexander Titsworth, M. S., C. E., <i>Graphics and Math.</i>
Edward Albert Bowser, C. E., LL. D., <i>Math. and Engin.</i>	Julius Nelson, Ph. D., <i>Biol.</i>

- Byron David Halsted, D. Sc., *Bot. and Hort.*
 John Bernhard Smith, D. Sc., *Ent.*
 Edward Burnett Voorhees, M. A., *Agr.*
 Albert Huntington Chester, E. M., Ph. D., D. Sc., *Chem. and Min.; Curator Museum.*
 John Charles Van Dyke, L. H. D., *Hist. Art.*
 Robert Woodworth Prentiss, M. S., *Math. and Astron.*
 Eliot Robertson Payson, Ph. D., *Hist. and Art Teaching.*
 Edward Luther Stevenson, Ph. D., *Hist.*
 William Cathcart Buttler, 3d U. S. Infantry, *Mil. Sci. and Tactics.*
 Rev. Henry Du Bois Mulford, *Engl. Lang. and Lit.*
 Irving Strong Upson, M. A., *Lib., Registrar, and Sec.*
 Clarence Livingston Speyers, Ph. B., (Assoc.) *Chem.*
 William Shields Myers, M. S., F. C. S., (Assoc.) *Chem.*
 Edward Livingston Barbour, B. O., *Instr. Rhet. and Elocution.*
 Charles Everett Adams, M. A., M. D., *Instr. Phys. Training; Dir. Gymnasium.*
 Ezra Frederick Scattergood, M. S., *Instr. Math., Elect., and Phys.*
 Edwin Bell Davis, B. L., *Instr. Modern Lang.*

NEW MEXICO.

New Mexico College of Agriculture and Mechanic Arts, Mesilla Park.

COURSES OF STUDY.

The courses of study are four: A course in agriculture, a course in mechanical engineering, a course in civil engineering, and a scientific course.

BOARD OF INSTRUCTION.

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|---|--|
| C. T. Jordan, M. A., <i>Pres.; Mental Sci.</i> | Ida M. Jones, <i>Spanish; Asst. Subfreshman Dept.</i> |
| J. P. Owen, V. Pres.; <i>Hist. and Polit. Sci.</i> | F. E. Lester, <i>Sten. and Typewriting; Clerk.</i> |
| C. T. Hagerty, M. S., <i>Math.</i> | R. F. Hare, M. S., <i>Instr. Chem.</i> |
| Arthur Goss, M. S., A. C., <i>Chem.</i> | Fabian Garcia, B. S., <i>Asst. Agr. and Hort.; Met.</i> |
| F. W. Brady, M. E., <i>Irrig. and Mech. Engin., Phys., and Drawing.</i> | Charles Mills, <i>Foreman College Shops.</i> |
| W. W. Robertson, M. A., <i>Engl. and Latin; Prin. Subfreshman Dept.</i> | Ellen F. Gibson, <i>Elocution and Phys. Culture; Asst. Subfreshman Dept.</i> |
| George W. Miles, M. S., <i>Astron., Geol., and Bookkeeping.</i> | Geraldine Combs, <i>Asst. Subfreshman Dept.</i> |
| John D. Tinsley, <i>Biol.</i> | Jos. F. Bennett, B. S., <i>Bookkeeping.</i> |
| George Vestal, <i>Agr. and Hort.</i> | Ida B. Freeman, <i>Matron.</i> |

NEW YORK.

Cornell University, Ithaca.

COURSES OF STUDY.

Among the numerous courses of study offered by the university is one which leads to the degree of bachelor of the science of agriculture. This course requires four years for completion, and during the last two years the student selects most of his studies in work given by the departments of agriculture and horticulture, and in the courses in agricultural chemistry and economic entomology. Post-graduate courses leading to advanced degrees are provided, and special courses in subjects relating to agriculture are also arranged.

BOARD OF INSTRUCTION.¹

Jacob Gould Schurman, M. A., D. Sc., LL. D., <i>Pres.</i>	Mark Vernon Slingerland, B. S., (<i>Asst.</i>) <i>Ent.</i>
Isaac Phillips Roberts, M. Agr., <i>Dir. College Agr., Dean Faculty; Agr.</i>	Louis Adelbert Clinton, B. S., (<i>Asst.</i>) <i>Agr.</i>
George Chapman Caldwell, B. S., Ph. D., <i>Agr. and General Chem.</i>	George Walter Cavanaugh, B. S., (<i>Asst.</i>) <i>Chem.</i>
James Law, F. R. C. V. S., <i>Vet. Medicine and Surgery.</i>	Benjamin Minge Duggar, M. S., (<i>Asst.</i>) <i>Bot.</i>
John Henry Comstock, B. S., <i>Ent. and General Invertebrate Zoology.</i>	Alexander Dyer MacGillivray, <i>Asst. in Ent.</i>
Liberty Hyde Bailey, M. S., <i>General and Expt. Hort.</i>	George Nieman Lauman, B. S. A., <i>Asst. in Hort.</i>
George Francis Atkinson, Ph. B., <i>Bot.</i>	Walter W. Hall, <i>Asst. in Cheese Making.</i>
Simon Henry Gage, B. S., <i>Anat.</i>	Jared Vanwagenen, jr., B. S., <i>Asst. in Butter Making.</i>
Willard Winfield Rowlee, <i>Plant Histology.</i>	John Lemuel Stone, B. S. A., <i>Asst. in Agr.</i>
Henry Hiram Wing, M. S., (<i>Asst.</i>) <i>Animal Indus. and Dairy Husb.</i>	George W. Tailby, <i>Foreman Farm.</i>
	Charles E. Hunn, <i>Foreman Garden.</i>
	Edward Arthur Butler, <i>Accountant.</i>

NORTH CAROLINA.

The North Carolina College of Agriculture and Mechanic Arts, *West Raleigh.*

COURSES OF STUDY.

The general courses of study are three, each requiring four years for completion: The course in agriculture, the course in engineering and mechanics, and the course in applied science, each leading to the degree of B. S.

BOARD OF INSTRUCTION.

Alex. Q. Holladay, LL. D., <i>Pres.; Hist.</i>	C. M. Pritchett, M. E., C. E., <i>Instr. Drawing and Shop.</i>
W. F. Massey, C. E., <i>Hort., Arbor., and Bot.</i>	C. B. Park, <i>Supt. Shops.</i>
W. A. Withers, M. A., <i>Chem.</i>	B. S. Skinner, <i>Farm Supt.</i>
D. H. Hill, M. A., <i>Engl.</i>	F. P. Williamson, D. V. S., <i>Instr. Vet. Sci.</i>
F. E. Emery, M. S., <i>Agr.</i>	Leo Watson, <i>Instr. Drawing.</i>
W. C. Riddick, B. A., C. E., <i>Math. and Civ. Engin.</i>	J. A. Bizzell, <i>Asst. in Chem.</i>
C. W. Scribner, S. B., <i>Mech. Engin.</i>	H. W. Primrose, <i>Asst. in Chem.</i>
F. A. Wahe, M. A., Ph. D., <i>Phys. and Elect. Engin.</i>	W. A. G. Clark, B. E., <i>Asst. in Drawing.</i>
J. C. Gresham, Capt., U. S. A., <i>Mil. Sci. and Tactics.</i>	L. R. Whitted, B. S., <i>Asst. in Phys.</i>
T. L. Wright, B. A., <i>Instr. Math.</i>	C. D. Francks, B. E., <i>Asst. in Engl. and Math.</i>
J. M. Johnson, M. S., (<i>Asst.</i>) <i>Agr.</i>	J. W. Carroll, B. S., <i>Asst. in Dairying.</i>
	J. I. Blount, <i>Tutor.</i>
	Mrs. S. C. Carroll, <i>Matron.</i>
	Jas. R. Rogers, M. D., <i>Physician.</i>

The Agricultural and Mechanic College for the Colored Race, *Greensboro.*

COURSES OF STUDY.

The courses of study are: Agriculture, horticulture, arboriculture and botany, chemistry, physics, mechanics and applied mathematics, mathematics, English, history, military science and tactics, and domestic economy.

¹Includes only instructors in subjects directly relating to agriculture. Many other members of the university faculty may give instruction to students pursuing the course leading to the degree of B. S. A.

BOARD OF INSTRUCTION.

James B. Dudley, <i>Pres.</i> ; <i>Hist.</i>	H. H. Falkener, B. S., M. A., (<i>Asst.</i>)
A. T. Stevens, B. S., <i>Agr. and Chem.</i>	<i>Engl. and Math.</i>
Orlo Epps, <i>Phys., Applied Math. and Mech.</i>	C. H. Evans, <i>Woodworking; Mil. Sci. and</i>
J. H. Bourne, (<i>Asst.</i>) <i>Applied Math. and</i>	<i>Tactics.</i>
<i>Mech.</i>	Sophia M. Parker, <i>Domestic Sci.</i>
Chas. H. Moore, B. A., <i>Engl.</i>	Mrs. E. A. Cheek, <i>Matron; Instr. Domestic</i>
J. H. M. Butler, M. A., (<i>Asst.</i>) <i>Engl.</i>	<i>Sci.</i>
	J. E. Kennedy, <i>Blacksmith.</i>

NORTH DAKOTA.

North Dakota Agricultural College, *Agricultural College.*

COURSES OF STUDY.

Four-year courses leading to the degree of B. S. are as follows: Agriculture, mechanics, and science; there are also short courses in agriculture, dairying, and domestic economy.

BOARD OF INSTRUCTION.

J. H. Worst, <i>Pres.</i>	C. B. Waldron, B. S., <i>Hort. and For.</i>
E. F. Ladd, B. S., <i>Chem.</i>	H. L. Bolley, M. S., <i>Bot. and Zool.</i>
C. M. Hall, B. S., (<i>Asst.</i>) <i>Chem.</i>	Merton Field, B. S., (<i>Asst.</i>) <i>Bot.</i>
W. C. Langdon, D. V. S., <i>Vet. Sci.</i>	E. S. Keene, B. S., <i>Mech.</i>
Olaf Nordby, B. S., (<i>Asst.</i>) <i>Mech.</i>	Miss M. B. Senn, M. S., <i>Domestic Sci.</i>
J. H. Shepperd, M. S. A., <i>Agr.</i>	Mrs. Eva E. Boyles, <i>Asst. in Modern Lang.</i>
A. M. Ten Eyck, M. S., (<i>Asst.</i>) <i>Agr.</i>	Mrs. P. A. Evans, <i>Lib.</i>
L. S. Bottenfield, M. A., <i>Modern Lang.</i>	Mrs. Ethel McVeety, <i>Asst. Lib.</i>
H. W. McArdle, B. S., <i>Math.</i>	H. M. Ash, <i>Supt. Farm.</i>
E. E. Kaufman, B. AGR., <i>Dairyman.</i>	
P. W. Farnham, <i>Accountant and Bookkeeper.</i>	

OHIO.

Ohio State University,¹ *Columbus.*

COURSES OF STUDY.

This university is divided into six colleges, as follows: Agriculture and Domestic Science; Arts, Philosophy, and Science; Engineering; Law; Pharmacy; and Veterinary Medicine. There are twenty-eight courses of study, as follows: Four-year courses leading to degrees—Agriculture, arts, ceramics, chemistry, domestic science, civil engineering, electrical engineering, mechanical engineering, mine engineering, English philosophy, horticulture and forestry, industrial arts, Latin philosophy, law, modern language course in philosophy, pharmacy, science, and veterinary medicine. Short courses—Agriculture, ceramics, domestic science, industrial arts, mining, and pharmacy. Architecture, course preparatory to law and journalism, and course preparatory to medicine, three years each; dairying, three months. The degrees granted are as follows: In the College of Agriculture and Domestic Science, the degree B. S. in agriculture, B. S. in horticulture and forestry, and B. S. in domestic science. In the College of Arts, Philosophy, and Science: B. A., B. Ph, and B. S. In the College of Engineering: C. E., E. M., E. M. in ceramics, M. E., M. E. in electrical engineering, and B. S. in industrial arts. In the College of Law: LL. B. In the College of Pharmacy: B. S. in pharmacy. In the College of Veterinary Medicine: D. V. M., and a certificate of veterinary surgeon to those who fail in certain literary requirements which are demanded for the higher degree. Post-graduate work is offered in all colleges.

¹ Exclusive of College of Law.

BOARD OF INSTRUCTION.

- James H. Canfield, M. A., LL. D., *Pres.*
 Edward Orton, Ph. D., LL. D., *Geol.*
 W. H. Scott, M. A., LL. D., *Philos.*
 N. W. Lord, M. E., *Dean College Engin., Min., and Metallurgy.*
 S. C. Derby, M. A., *Latin; Dean College Arts, Philos., and Sci.*
 W. R. Lazenby, M. Agr., *Hort. and For.*
 J. R. Smith, M. A., *Greek.*
 H. A. Weber, Ph. D., *Agr. Chem.*
 B. F. Thomas, Ph. D., *Phys.*
 G. W. Knight, Ph. D., *Hist. and Polit. Sci.; Constitutional Law.*
 R. D. Bohannon, B. S., C. E., M. E., *Math.*
 D. S. Kellicott, Ph. D., *Zool. and Ent.*
 C. N. Brown, C. E., *Civil Engin.*
 W. T. Magruder, M. E., *Mech. Engin.*
 E. A. Eggers, *German.*
 Albert M. Bleile, M. D., *Anat. and Physiol.*
 A. L. Williston, B. S., *Dir. Indus. Dept.*
 Edward Orton, jr., M. E., *Dir. Ceramics and Clayworking.*
 S. A. Norton, Ph. D., LL. D., *Lecturer on Chem.*
 A. E. Vinson, *Asst. in Agr. Chem.*
 W. D. Gibbs, (*Asst.*) *Agr.*
 C. E. Sherman, C. E., (*Asst.*) *Civil Engin.*
 E. A. Hitchcock, M. E., (*Assoc.*) *Expt. Engin.*
 J. E. Boyd, M. S., (*Asst.*) *Phys.*
 G. W. McCoard, M. A., (*Asst.*) *Math.*
 F. C. Caldwell, B. A., M. E., (*Assoc.*) *Elect. Engin.*
 Perla G. Bowman, (*Assoc.*) *Domestic Sci.*
 F. C. Clark, Ph. D., (*Asst.*) *Econ. and Sociology.*
 H. J. Noyes, (*Asst.*) *Dairy Husb.*
 C. W. Mesloh, M. A., (*Asst.*) *German.*
 J. R. Taylor, B. A., (*Asst.*) *Rhet. and Engl. Lang.*
 C. A. Bruce, B. A., *Asst. in French.*
 C. L. Arnold, M. S., *Asst. in Math.*
 E. M. Van Harlingen, M. S., *Asst. in Anat. and Physiol.*
 C. A. Dye, G. Ph., *Asst. in Pharmacy.*
 J. P. Gordy, Ph. D., *Pedag.*
 John T. Martin, 1st Lieut., 5th Artillery, U. S. A., *Mil. Sci. and Tactics.*
 W. A. Kellerman, Ph. D., *Bot.*
 Thomas F. Hunt, M. S., *Agr.*
 A. C. Barrows, M. A., D. D., *Engl. Lit.*
 J. V. Denney, B. A., *Sec. Faculty; Rhet. and Engl.*
 B. L. Bowen, Ph. D., *Romance Lang. and Lit.*
 R. I. Fulton, M. A., *Elocution and Oratory.*
 G. B. Kauffman, B. S., *Pharmacy.*
 W. K. Moorehead, *Curator Archaeology.*
 D. S. White, D. V. S., (*Assoc.*) *Vet. Medicine; Dean College Vet. Medicine.*
 H. C. Lord, B. S., (*Assoc.*) *Astron.*
 J. N. Bradford, M. E., (*Assoc.*) *Drawing.*
 Wm. McPherson, jr., D. Sc., *Chem.*
 F. A. Ray, M. E., (*Assoc.*) *Mining Engin.*
 Charles W. Burkett, B. S., *Asst. in Agr.*
 J. A. Bownocker, M. S., *Asst. in Geol.*
 C. W. Foulk, B. A., *Asst. in Chem.*
 W. L. Graves, M. A., *Asst. in Rhet.*
 W. H. Siebert, M. A., (*Asst.*) *Hist.*
 A. W. Hodgman, Ph. D., (*Asst.*) *Greek and Latin.*
 W. F. Lavery, *Asst. in Vet. Medicine.*
 C. C. Seffel, *Asst. in Indus. Dept. and Foreman Forge Room.*
 Frank Haas, C. E., M. E., *Asst. in Metallurgy.*
 T. E. French, M. E., *Asst. in Drawing.*
 K. D. Swartzel, M. S., *Asst. in Math.*
 W. L. Evans, M. S., *1st Asst. Dir. in Clayworking and Ceramics.*
 J. H. Schaffner, *Asst. in Bot.*
 J. S. Hine, B. S., *Asst. in Ent.*
 T. K. Lewis, B. S., *Asst. in Drawing.*
 F. L. Landacre, B. A., *Asst. in Zool. and Ent.*
 C. W. Weick, *Asst. in Indus. Dept.*
 W. A. Knight, *Asst. in Indus. Dept.*
 Olive B. Jones, *Lib.*
 F. E. Kester, E. E., *Asst. in Physics.*
 Clark Wissler, *Asst. in Philos. and Pedag.*
 James G. Boyd, D. V. M., *Asst. in Vet. Medicine.*
 Charles B. Fredericks, *Asst. in Vet. Medicine.*
 Harry W. Kuhn, B. S., *Asst. in Math.*
 John R. Spurrier, E. E., *Lab. Asst. in Elect. Engin.*
 Robert Fischer, M. Ph., *Lab. Asst. in Chem.*
 Edward T. Watson, B. S., *Lab. Asst. in Chem.*
 John F. Cunningham, B. S. (*Hort.*), *Lab. Asst. in Hort. and For.*
 John H. Fox, M. E., *Lab. Asst. in Indus. Arts.*
 Horace Judd, M. E., *Lab. Asst. in Mech. Engin.*

OKLAHOMA.

Oklahoma Agricultural and Mechanical College, *Stillwater*.

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S.

BOARD OF INSTRUCTION.

George Espy Morrow, M. A., <i>Pres.; Agr.</i>	Ernest Everett Bogue, M. S., <i>Bot. and Ent.</i>
Edward Francis Clark, <i>Math.</i>	Lowery Laymon Lewis, M. S., D. V. M., <i>Vet. Sci.</i>
George Latimer Holter, B. S., <i>Chem. and Phys.</i>	John Fields, B. S., <i>Asst. in Chem. and Phys.</i>
Freeman Edwin Miller, M. A., <i>Engl. and Lit.</i>	John Hayes Bone, B. S., <i>Asst. in Agr.</i>
Henry Ewing Glazier, <i>Hort.</i>	Harry Edgar Thompson, B. S., <i>Prin. Prep. Dept.</i>
May Overstreet, <i>Asst. Prep. Dept.</i>	

OREGON.

Oregon State Agricultural College, *Corvallis*.

COURSES OF STUDY.

The courses of study are three: A course in agriculture, requiring four years for completion and leading to the degree of B. S. A.; a course in mechanical engineering, requiring four years for completion and leading to the degree of B. M. E., and a four-year course in household economy (for girls) leading to the degree of B. H. E.

BOARD OF INSTRUCTION.

Thos. M. Gatch, M. A., PH. D., <i>Pres.; Mental and Moral Sci.</i>	John F. Fulton, B. S., (<i>Asst.</i>) <i>Chem.</i>
F. Berchtold, M. A., <i>Dean; Lang. and Hist.</i>	F. E. Edwards, B. M. E., <i>Instr. Chem.</i>
Grant A. Covell, M. E., <i>Mech., Mech. Engin. and Phys.</i>	J. B. Horner, M. A., <i>Engl. Lang. and Lit.</i>
Ernest C. Hayward, E. E., (<i>Asst.</i>) <i>Mech., Mech. Engin. and Phys.</i>	Mrs. Ida B. Callahan, B. S., (<i>Asst.</i>) <i>Engl. Lang. and Lit.</i>
D. W. Prichard, <i>Asst. in Woodwork.</i>	C. E. Dentler, Lieut., U. S. A., <i>Mil. Sci. and Tactics.</i>
Clyde M. Phillips, B. M. E., <i>Asst. in Black- smithing.</i>	Gordon V. Skelton, C. E., <i>Math. and Civil Engin.</i>
Margaret C. Snell, M. D., <i>Household Econ. and Hygiene.</i>	Chas. L. Johnson, B. S., (<i>Asst.</i>) <i>Math. and Civil Engin.</i>
Carrie A. Lyford, B. L., (<i>Asst.</i>) <i>Household Econ.</i>	A. B. Cordley, B. S., <i>Zool. and Ent.</i>
Mrs. Mary Avery, <i>Asst. in Sewing Dept.</i>	Moses Craig, M. S., <i>Bot. and Hort.</i>
H. T. French, M. S., <i>Agr. and Dairying.</i>	Geo. Coote, <i>Hort. and Landscape Garden- ing.</i>
F. L. Kent, B. AGR., <i>Asst. in Dairying.</i>	E. F. Pernot, <i>Drawing and Photography.</i>
S. P. Smith, B. S. A., <i>Foreman Farm.</i>	Dorothea Nash, B. H. E., <i>Asst. in Drawing and Instr. Music.</i>
G. W. Shaw, PH. D., <i>Chem.</i>	Helen V. Crawford, B. S., <i>Elocution.</i>
Bertha Ellis, <i>Vocal Music.</i>	

PENNSYLVANIA.

The Pennsylvania State College, *State College*.

COURSES OF STUDY.

The courses of study are as follows, each requiring four years for completion, unless otherwise specified: Classical course, leading to the degree of B. A.; course in philosophy, leading to the degree of Ph. B.; general science course; Latin scientific course; course in agriculture; course in biology; course in chemistry; course

in civil engineering; course in electrical engineering; course in mathematics; course in mechanical engineering; course in mining engineering; course in physics; a special course in chemistry and a special course in mining engineering, each requiring two years for completion; short courses in agriculture and mining, each lasting twelve weeks, and a course in dairying and in creamery work of six weeks each. The four years' courses (except classical and philosophy) lead to the degree of B. S., the diploma containing mention of the course pursued. Provision is also made for post-graduate study, leading to advanced degrees, and for one year of preparatory work.

BOARD OF INSTRUCTION.

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|--|--|
| George W. Atherton, LL. D., <i>Pres.; Polit. and Social Sci.</i> | Joseph H. Tudor, C. E., M. S., (<i>Asst.</i>) <i>Math.</i> |
| William A. Buckhout, M. S., <i>Bot. and Hort.</i> | Thomas C. Hopkins, M. S., M. A., (<i>Asst.</i>) <i>Geol.</i> |
| I. Thornton Osmond, M. S., M. A., <i>Phys.</i> | Edward J. Colcord, M. A., (<i>Asst.</i>) <i>Hist.</i> |
| Harriet A. McElwain, M. A., <i>Lady Prin.; Hist.</i> | Carl D. Fehr, M. A., (<i>Asst.</i>) <i>German.</i> |
| Louis E. Reber, M. S., <i>Mech. and Mech. Engin.</i> | T. Raymond Beyer, B. S., C. E., (<i>Asst.</i>) <i>Civil Engin.</i> |
| William Frear, Ph. D., <i>Agr. Chem.</i> | Harry K. Munroe, M. A., (<i>Asst.</i>) <i>Engl.</i> |
| George Gilbert Pond, M. A., Ph. D., <i>Chem.</i> | Anne E. Redifer, <i>Instr. Indus. Art and Design.</i> |
| Henry P. Armsby, Ph. D., <i>Stock Feeding.</i> | Herbert E. Dunkle, B. S., M. E., <i>Instr. Mech. Drawing.</i> |
| Henry T. Fernald, M. S., Ph. D., <i>Zool.</i> | John A. Hunter, jr., B. S., M. E., <i>Instr. Mech. Engin.</i> |
| Benjamin Gill, M. A., <i>Greek and Latin.</i> | Harry Hayward, B. S., <i>Instr. Dairy Husb.</i> |
| Magnus C. Ihlseng, E. M., C. E., Ph. D., <i>Mining Engin. and Geol.</i> | John H. Leete, B. A., <i>Instr. Math.</i> |
| John Price Jackson, B. S., M. E., <i>Elect. Engin.</i> | Irving L. Foster, M. A., <i>Instr. Romance Lang.</i> |
| Fred E. Foss, B. S., M. A., <i>Civil Engin.</i> | Charles L. Griffin, B. S., (<i>Asst.</i>) <i>Machine Design.</i> |
| Joseph M. Willard, B. A., <i>Math.</i> | Francis J. Pond, M. A., Ph. D., <i>Instr. Assaying.</i> |
| Fred Lewis Pattee, M. A., <i>Engl. and Rhet.</i> | Walter J. Keith, M. A., Ph. D., <i>Instr. Chem.</i> |
| George C. Watson, B. Agr., M. S., <i>Agr.</i> | Paul B. Brenneman, B. S., <i>Instr. Civil Engin.</i> |
| Lawrence M. Colfelt, D. D., <i>Preacher to the College; Ethics.</i> | Thomas H. Taliaferro, Ph. D., <i>Instr. Math.</i> |
| Martin G. Benedict, M. A., Ph. D., <i>Pedag.; in Charge Subfreshman Class.</i> | Helen H. Bradley, <i>Lib.</i> |
| Daniel C. Pearson, Capt., 2d Cavalry, U. S. A., <i>Mil. Sci. and Tactics.</i> | Clara Dayton Wyman, <i>Instr. Music.</i> |
| George C. Butz, M. S., (<i>Asst.</i>) <i>Hort.</i> | F. H. Greenwood, B. S., <i>Instr. Practical Mech.</i> |
| Harry H. Stoek, B. S., E. M. (<i>Asst.</i>) <i>Min. Engin. and Metallurgy.</i> | Budd Frankinfield, B. S., E. E., <i>Instr. Elect. Engin.</i> |
| Madison M. Garver, B. S., (<i>Asst.</i>) <i>Phys.</i> | Charles W. Lawrence, B. S., <i>Instr. Civil Engin.</i> |
| Franklin E. Tuttle, M. A., Ph. D., (<i>Asst.</i>) <i>Chem.</i> | Lloyd A. Reed, B. S., <i>Asst. in Elect. Lab.</i> |
| William Mason Towle, B. S., (<i>Asst.</i>) <i>Practical Mech.</i> | Warren P. Smiley, B. S., <i>Asst. in Chem Lab.</i> |
| Erwin W. Runkle, M. A., Ph. D., (<i>Asst.</i>) <i>Psych. and Ethics.</i> | S. B. Newton, B. A., M. D., <i>Phys. Dir.</i> |

RHODE ISLAND.

Rhode Island College of Agriculture and Mechanic Arts, Kingston.

COURSES OF STUDY.

The courses of study are six: Agricultural, mechanical, general scientific, chemical, biological, physics-mathematics. Each requires four years for completion, and leads

to the degree of B. S. A short winter course in both agriculture and mechanics, with shop and laboratory work, together with a poultry school extending through four weeks, is given from January 1 to April 1.

BOARD OF INSTRUCTION.

John H. Washburn, PH. D., <i>Pres.</i> ; <i>Chem.</i>	A. C. Scott, B. S., <i>Phys. and Elect.</i>
A. A. Brigham, PH. D., <i>Agr.</i>	Thos. C. Rodman, <i>Instr. Woodwork.</i>
Homer J. Wheeler, PH. D., <i>Geol.</i>	John F. Knowles, B. S., <i>Instr. Woodwork.</i>
A. L. Bosworth, B. S., <i>Math.</i>	Mabel D. Eldred, B. S., <i>Instr. Drawing.</i>
E. J. Watson, M. A., <i>Lang.</i>	M. W. Rockwell, B. A., <i>Instr. Engl. and Hist.</i>
Wm. E. Drake, B. S., <i>Mech. Engin.</i>	Lucy H. Putnam, <i>Instr. Expression.</i>
O. C. Wiggin, M. D., <i>Comparative Anat.</i>	George B. Knight, <i>Instr. Mech.</i>
H. L. Merrow, M. A., <i>Bot.</i>	Howland Burdick, (<i>Asst.</i>) <i>Agr.</i>
Geo. W. Field, PH. D., <i>Zool.</i>	John E. Hammond, B. S., (<i>Asst.</i>) <i>Agr.</i>
John E. Bucher, PH., D., <i>Agr. Chem.</i>	Charles S. Clark, B. S., <i>Asst. Instr. Mech.</i>
W. W. Wotherspoon, Capt., 12th Infantry, U. S. A., <i>Mil. Sci. and Tactics.</i>	Charles F. Kenyon, (<i>Asst.</i>) <i>Chem.</i>
J. D. Towar, B. S., (<i>Assoc.</i>) <i>Agr. and Math.</i>	Nathaniel Helme, <i>Met.</i>

SOUTH CAROLINA.

Clemson Agricultural College. *Clemson College*

COURSES OF STUDY.

There is one course of study offered in the freshman year; two in the sophomore, junior, and senior years—one in chemistry and agriculture and the other in mechanics and engineering,

BOARD OF INSTRUCTION.

Henry S. Hartzog, <i>Pres.</i>	E. Walker, <i>Ent.</i>
M. B. Hardin, <i>Chem.</i>	P. T. Brodie, (<i>Asst.</i>) <i>Math.</i>
C. M. Furman, <i>Engl.</i>	W. E. A. Wyman, <i>Vet. Sci.</i>
W. S. Morrison, <i>Hist.</i>	A. M. Redfearn, M. D., <i>Physiol.</i>
F. H. Worthington, <i>Civil and Mech. Engin.</i>	J. S. McLucas, (<i>Asst.</i>) <i>Engl.</i>
E. B. Fuller, Capt., U. S. A., <i>Mil. Sci. and Phys.</i>	F. S. Shiver, <i>Instr. Chem.</i>
J. G. Clinkscales, <i>Math.</i>	A. P. Anderson, M. S., PH. D., <i>Bot.</i>
J. V. Lewis, <i>Geol. and Min.</i>	W. M. Yager, <i>Drawing.</i>
J. S. Newman, <i>Agr.</i>	W. M. Riggs, <i>Elect. Engin.</i>
J. W. Hart, <i>Dairyman.</i>	A. Barnes, M. E., <i>Woodworking.</i>
R. N. Brackett, (<i>Asst.</i>) <i>Chem.</i>	R. T. V. Bowman, <i>Forge and Foundry.</i>
J. F. C. Du Pre, <i>Hort.</i>	A. Shanklin, <i>Tutor, Math.</i>
	Leroy Werts, <i>Tutor, Math.</i>
	W. W. Klugh, B. S., <i>Tutor: Engl.</i>

The Colored Normal, Industrial, Agricultural and Mechanical College of South Carolina, *Orangeburg.*

COURSES OF STUDY.

The courses of study are four in number, and require four years each for completion: The collegiate normal and industrial course, leading to the degree of B. A.; the agricultural course, leading to the degree of B. Agr.; the mechanical course, leading to the degree of B. S.; the preparatory course, leading up to the three above-named courses.

BOARD OF INSTRUCTION.

- Thos. E. Miller, M. A., *Pres.; Dir. Indus.*
 W. R. A. Palmer, M. A., D. D., *Engl. and Lit.*
 R. S. Wilkinson, M. A., *Math., Phys., Mil. Sci.; College Accountant.*
 M. W. Gilbert, M. A., D. D., *Hist.; Prin. Prep. Dept.*
 I. Nunez Cardoza, M. A., (*Asst.*) *Engl., Pedag., and Moral Sci.*
 J. W. Hoffman, PH. D., *Agr., Chem., and Zool.*
 N. C. Nix, B. A., *Math.*
 R. L. Douglass, B. A., *Engl.*
 Sarah V. Smalls, *Phys. Sci.*
 Louise B. Fordham, *Drawing and Art.*
 Mary J. Miller, *Bookkeeping and Typewriting.*
 Mrs. A. R. Stewart, *Prin. Primary Dept.*
- Julia A. McLain, *Kindergarten, and Asst. in Engl.*
 Olive A. Sasportas, *Asst. in Kindergarten, and Asst. in Engl.*
 S. M. Boston, *Supt. Ironwork.*
 William Gruber, *Supt. Woodwork.*
 J. R. Steele, *Supt. Brickwork.*
 J. A. Tolbert, *Supt. Painting.*
 G. C. Williams, *Supt. Farm.*
 Wm. Williams, *Asst. in Ironwork.*
 W. A. Alston, *Asst. in Woodwork.*
 C. H. Waller, *Asst. in Dairy.*
 S. D. Frazier, *Asst. in Surveying and Phys.*
 W. S. Lowery, *Instr. Band Music and Engl.*
 C. C. Davis, *Dressmaking and Plain Sewing.*
 C. J. Gregg, *Domestic Econ. and Matron.*
 John Palmer, *Engin.*

SOUTH DAKOTA.

South Dakota Agricultural College, *Brookings.*

COURSES OF STUDY.

The regular courses of study leading up to degrees are four: Agricultural, domestic economy, mechanical engineering, and pharmacy. The first three require three years for completion and lead to degree of B. S. The last requires two years and leads up to degree of pharmacy graduate. Advanced courses in pharmacy are also offered. Short courses are given, as follows: Business and steam engineering, each one year; agriculture and dairying, each twelve weeks.

BOARD OF INSTRUCTION.

- John W. Heston, M. A., PH. D., LL. D., *Pres.; Hist. and Econ.*
 James H. Shepard, B. S., *Chem.*
 Nellie E. Folsom, B. S., *Preceptress; Engl. Lang. and Lit.*
 Dice McLaren, M. S., M. D., *Zool.*
 Carrie M. Barton, *Indus. Art.*
 Edgar A. Burnett, B. S., *Animal Husb. and Dairy Sci.*
 E. C. Chilcott, *Agronomy.*
 Niels E. Hansen, M. S., *Hort. and For.*
 De Alton Saunders, B. S., *Bot.*
 Hubert B. Mathews, B. S., *Phys.*
 Addison R. Saunders, M. E., *Archit. and Agr. Engin.*
 George L. Brown, PH. D., *Math. and Astron.*
- H. C. Solberg, M. E., *Mech. Engin.*
 A. B. Crane, B. S., *Asst. in Math. and Engin.*
 Bower T. Whitehead, B. S., PH. G., *Pharmacy.*
 G. E. Bolton, M. ACCTS., *Sten. and Business Forms.*
 Isabella R. Frisbie, B. S., *Domestic Econ.*
 Edith L. Pratt, *Music and Phys. Culture.*
 Gilbert A. Young, B. S., *Asst. in Mech. Arts.*
 Percy E. Trippe, Lieut., 10th U. S. Cavalry, *Mil. Sci. and Tactics.*
 A. S. Harding, M. S., *Asst. in Hist. and Econ.*
 Frank G. Orr, *Sec.*

TENNESSEE.

State Agricultural and Mechanical College of the University of Tennessee,
Knoxville.

COURSES OF STUDY.

The courses of study are seven: Literary course, scientific course, course in agriculture, course in civil engineering, course in mechanical engineering, course in electrical engineering, and chemical course. The degrees of B. A. and B. S. are conferred.

BOARD OF INSTRUCTION.

Chas. W. Dabney, PH. D., LL. D., <i>Pres.</i>	C. D. Schmitt, M. A., <i>Math.</i>
W. W. Carson, C. E., M. E., <i>Civil Engin.</i>	G. L. Brown, Capt., 11th Infantry, U. S. A., <i>Mil. Sci. and Tactics.</i>
T. W. Jordan, M. A., <i>Latin.</i>	J. R. McColl, B. S., (<i>Asst.</i>) <i>Mech. Engin.</i>
C. E. Wait, C. E., M. E., PH. D., F. C. S., <i>Chem.</i>	R. L. Watts, B. A., <i>Instr. Hort.</i>
C. F. Vanderford, <i>Agr. and Hort.</i>	Charles E. Ferris, B. S., <i>Instr. Drawing.</i>
G. F. Mellen, M. A., PH. D., <i>Greek and French.</i>	S. M. Bain, B. A., <i>Instr. Bot.</i>
J. B. Henneman, M. A., PH. D., <i>Engl. and German.</i>	C. E. Chambliss, M. S., <i>Instr. Zool.</i>
T. C. Karns, M. A., <i>Philos. and Pedag.</i>	Norman H. Pitman, B. S., <i>Instr. Engl.</i>
Charles A. Perkins, PH. D., <i>Phys. and Elect. Engin.</i>	Edwin Wiley, B. S., <i>Lib., Instr. Engl.</i>
Charles W. Turner, M. A., <i>Acting Prof. Hist.</i>	Eugene R. Attkisson, B. A., <i>Instr. Greek and Latin.</i>
	Wm. H. Gildersleeve, <i>Asst. Chem.</i>
	M. A. Stoner, <i>Instr. Domestic Arts.</i>
	Jno. F. Voorhees, <i>Instr. Phys. Culture.</i>
	Jno. B. Guinn, <i>Foreman Shops.</i>

TEXAS.

State Agricultural and Mechanical College of Texas, College Station.

COURSES OF STUDY.

There are four regular courses of study: Agriculture, horticulture, mechanical engineering, and civil engineering. Each extends through four years, and leads to the degree of B. S., the particular course being specified in the diploma. Special, elective, and graduate courses are also provided.

BOARD OF INSTRUCTION.

R. H. Whitlock, M. E., <i>Acting Pres.; Mech. Engin.</i>	W. B. Philpott, M. S., (<i>Assoc.</i>) <i>Engl. and Hist.</i>
H. H. Harrington, M. S., <i>Chem. and Min.</i>	A. L. Banks, B. A., M. S., (<i>Adjunct</i>) <i>Math.</i>
C. Puryear, M. A., C. E., <i>Math.</i>	H. Ness, B. S., (<i>Asst.</i>) <i>Hort. and Bot.</i>
Mark Francis, D. V. M., <i>Vet. Sci.</i>	D. W. Spence, B. S., C. E., (<i>Asst.</i>) <i>Civil Engin. and Phys.</i>
F. E. Giesecke, M. E., <i>Drawing.</i>	C. E. Burgoon, B. M. E., (<i>Asst.</i>) <i>Mech. Engin.</i>
J. C. Nagle, M. A., C. E., M. C. E., <i>Civil Engin. and Phys.</i>	E. W. Kerr, B. S., (<i>Asst.</i>) <i>Mech. Engin.</i>
R. H. Price, B. S., <i>Hort., Bot., and Ent.</i>	A. M. Soule, B. S. A., (<i>Asst.</i>) <i>Agr.</i>
T. C. Bittle, M. A., PH. D., <i>Laug.</i>	H. W. South, (<i>Asst.</i>) <i>Engl. and Hist.</i>
J. H. Connell, M. S., <i>Agr.</i>	A. C. Gillespie, M. D., <i>Surgeon.</i>
C. W. Hutson, <i>Engl. and Hist.</i>	J. A. Baker, <i>Sec.</i>
G. T. Bartlett, 1st Lieut., 3d Artillery, U. S. A., <i>Mil. Sci.; Commandant.</i>	J. G. Harrison, <i>Bookkeeper.</i>
R. F. Smith, (<i>Assoc.</i>) <i>Math.</i>	Bernard Sbisa, <i>Steward.</i>
P. S. Tilson, M. S., (<i>Assoc.</i>) <i>Chem.</i>	C. A. Lewis, <i>Foreman Carpenter Shop.</i>
	H. C. Kyle, B. S., <i>Foreman Farm.</i>
	B. C. Pittuck, <i>Station Agr.</i>

UTAH.

Agricultural College of Utah, Logan.

COURSES OF STUDY.

The college work includes five distinctive lines of instruction: Course in agriculture, course in domestic arts, course in mechanical engineering, course in civil engineering, and commercial course. There are three special courses: A two years' course in agriculture, a two years' course in domestic arts, a two years' commercial course, and a preparatory department. In addition to these special courses there are two courses of winter lectures covering ten weeks each: A course of agricultural lectures and a course of lectures for the domestic arts department.

BOARD OF INSTRUCTION.

Joseph M. Tanner, <i>Pres.; Polit. Sci.</i>	Luther Foster, B. S., M. S. A., <i>Agr.; Dir. Expt. Sta.</i>
John T. Caine, jr., B. S., <i>Prin. Prep. Dept.; Hist.</i>	Lewis A. Merrill, B. S., (<i>Asst.</i>) <i>Agr. and Vet. Sci.</i>
James Dryden, (<i>Asst.</i>) <i>Met. and Sten.</i>	Edward W. Robinson, (<i>Asst.</i>) <i>German.</i>
Elias J. MacEwan, M. A., <i>Engl. Lang. and Lit.</i>	Samuel W. Dunning, 1st Lieut., 16th Infantry, U. S. A., <i>Mil. Sci. and Tactics.</i>
F. W. Brewer, M. D., <i>Biol. and Sanitary Sci.</i>	John W. Faris, <i>Commercial Econ. and Bookkeeping; Prin. Commercial Dept.</i>
Samuel Fortier, M. E., <i>Civil Engin.</i>	Miss Rosannah Cannon, <i>Instr. Elocution and Phys. Culture.</i>
F. B. Linfield, B. S. A., <i>Dairying and Animal Husb.</i>	Joseph E. Wilson, <i>Instr. Penmanship.</i>
Willard S. Langton, B. S., (<i>Asst.</i>) <i>Math.</i>	U. P. Hedrick, <i>Bot., Hort., and Ent.</i>
John A. Widtsoe, B. S., <i>Chem. and Min.</i>	August J. Hansen, <i>Foreman Woodworking Dept.</i>
Mrs. Dalinda Cotey, B. S., <i>Domestic Arts.</i>	J. P. Griffin, <i>Foreman Ironworking Dept.</i>
Miss Sarah E. Bowen, <i>Instr. Sewing, Dressmaking, and Millinery.</i>	John Stewart, B. S., <i>Asst. in Chem. Lab. Expt. Sta.</i>
Joseph Jenson, <i>Phys. and Mech. Engin.; Dir. Workshops.</i>	James C. Thomas, <i>Asst. in Chem. Lab. Expt. Sta.</i>
Lewis Cannon, B. S., <i>Math. and Drawing.</i>	John A. Crockett, <i>Asst. in Dairy Dept.</i>
Mrs. Sara Goodwin, <i>Lib. and Instr. Music.</i>	

VERMONT.

University of Vermont and State Agricultural College, Burlington.

COURSES OF STUDY.

The four-year academical courses are seven in number: Classical, leading to the degree of B. A.; literary-scientific, leading to the degree of Ph. B.; civil and sanitary engineering, electrical engineering, mechanical engineering, chemical, agricultural, leading to the degree of B. S., the particular course being specified in the diploma. A dairy-school course of four weeks' duration is carried on each winter.

BOARD OF INSTRUCTION.

M. H. Buckham, D. D., <i>Pres.; Polit. and Social Philos.</i>	S. F. Emerson, Ph. D., <i>Hist.</i>
H. A. P. Torrey, D. D., LL. D., <i>Intellectual and Moral Philos.</i>	N. F. Merrill, Ph. D., <i>Chem.</i>
V. G. Barbour, Ph. B., C. E., <i>Mech. and Bridge Engin.</i>	A. L. Daniels, D. Sc., <i>Math.</i>
G. H. Perkins, Ph. D., <i>Natural Hist.</i>	L. J. Huff, <i>German.</i>
J. E. Goodrich, M. A., <i>Latin.</i>	J. W. Votey, C. E., <i>Civil Engin.</i>
	H. A. Storrs, C. E., <i>Elect. Engin.</i>
	L. R. Jones, Ph. B., <i>Bot.</i>
	A. W. Ayer, B. S., <i>Mech. Engin.</i>

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|---|---|
| W. C. Kitchin, Ph. D., <i>French.</i> | H. B. Chittenden, M. A., <i>Instr. Agr. Dept.</i> |
| J. L. Hills, B. S., <i>Agr. Chem.</i> | J. Eaton, <i>Instr. Shopwork.</i> |
| F. Tupper, jr., Ph. D., <i>Rhet. and Engl. Lit.</i> | C. W. Doten, Ph. B., <i>Instr. Elocution ;</i> |
| A. W. Slocum, M. A., <i>Phys.</i> | <i>Sec. and Registrar.</i> |
| G. E. Howes, Ph. D., <i>Greek.</i> | W. G. Bullard, Ph. D., <i>Instr. Math.</i> |
| F. A. Waugh, M. S., <i>Hort.</i> | H. D. W. Giddings, B. S., <i>Instr. Chem.</i> |
| C. J. Bailey, 1st Lieut., 1st Artillery, U. | G. E. Humphrey, <i>Instr. Dairying.</i> |
| S. A., <i>Mil. Sci. and Tactics.</i> | J. C. Robinson, <i>Instr. Dairying.</i> |
| F. A. Rich, V. S., M. D., <i>Instr. Vet. Medi-</i> | G. E. P. Smith, B. S., <i>Instr. Civil Engin.</i> |
| <i>cine.</i> | H. J. Smith, M. A., <i>Lib.</i> |

VIRGINIA.

Virginia Agricultural and Mechanical College, Blacksburg.

COURSES OF STUDY.

The courses of study are seven, each requiring four years for completion and leading to the degree of B. S.: Agricultural course, horticultural course, applied chemistry course, general science course, civil engineering course, mechanical engineering course, and electrical engineering course. There are also two courses which require two years for completion and lead to a certificate of practical agriculture and practical mechanics.

BOARD OF INSTRUCTION.

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|--|--|
| J. M. McBryde, Ph. D., LL. D., <i>Pres. :</i> | J. M. Johnson, <i>Instr. Forge and Foundry</i> |
| <i>Agr. Chem.</i> | <i>Work.</i> |
| W. B. Alwood, <i>Hort., Ent., and Myc.</i> | J. R. Parrott, <i>Instr. Woodwork.</i> |
| E. E. Sheib, Ph. D., <i>Engl. Hist. and Polit.</i> | A. T. Eskridge, M. S., <i>Instr. Min. and Geol.</i> |
| <i>Econ.</i> | C. I. Wade, <i>Treas.</i> |
| E. A. Smyth, jr., M. A., <i>Biol.</i> | W. G. Conner, M. E., <i>Instr. Machine Work.</i> |
| T. P. Campbell, M. A., <i>Modern Lang</i> | F. S. Roop, D. V. M., <i>Instr. Vet. Sci.</i> |
| S. R. Pritchard, M. A., <i>Phys. and Elect.</i> | A. W. Drinkard, M. S., <i>Instr. Engl. and</i> |
| <i>Engin.</i> | <i>Hist.</i> |
| R. C. Price, <i>Chem., Min., and Geol.</i> | J. W. Stull, C. E., <i>Instr. Math. and Civil</i> |
| D. O. Nourse, B. S., <i>Agr.</i> | <i>Engin.</i> |
| D. C. Shanks, 1st Lieut., 18th Infantry, | W. B. Ellett, M. S., <i>Instr. Chem.</i> |
| U. S. A., <i>Mil. Sci. and Tactics, Math.</i> | L. W. Jerrell, M. S., M. E., <i>Instr. Wood-</i> |
| L. S. Randolph, M. E., <i>Mech. Engin.</i> | <i>work.</i> |
| W. M. Patton, C. E., <i>Civil Engin.</i> | F. P. Turner, B. S., <i>Asst. in Math. and Asst.</i> |
| R. J. Davidson, M. A., <i>Anal. Chem.</i> | <i>Commandant.</i> |
| E. P. Niles, D. V. M., <i>Vet. Sci.</i> | R. C. Stuart, B. S., <i>Asst. in Machine Work.</i> |
| W. D. Saunders, <i>Dairy Husb.</i> | H. H. Hurt, B. S., <i>Asst. in Hist.</i> |
| W. W. Hurt, <i>Sec. ; Asst. Math. and Book-</i> | W. H. Rasche, <i>Asst. in Drawing.</i> |
| <i>keeping.</i> | C. E. Hardy, B. S., <i>Asst. in Phys.</i> |
| | C. Lee, B. S., <i>Asst. in Elect. Engin.</i> |
| | W. M. Scott, B. S., <i>Asst. in Hort.</i> |

The Hampton Normal and Agricultural Institute, Hampton.

COURSE OF STUDY.

The course of study requires three years for completion, and a diploma is given on graduation.

BOARD OF INSTRUCTION.

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| H. B. Frissell, D. D., <i>Prin. ; Mental Philos.</i> | Francis D. Briggs, <i>Business Agent.</i> |
| H. B. Turner, <i>Pastor ; Bible Lessons.</i> | Albert Howe, <i>Supt. Indus.</i> |
| George Foster Peabody (<i>Treas.</i>), <i>New</i> | Martha M. Waldron, M. D., <i>Resident Phy-</i> |
| <i>York.</i> | <i>sician.</i> |
| J. J. Wilson (<i>Asst. Treas.</i>), <i>Hampton.</i> | Elizabeth Clark, <i>Lady Prin. ; Math.</i> |

- Elizabeth Hyde, *in Charge Academic Dept.*
 Josephine E. Richards, *in Charge Indian Dept.*
 Frank K. Rogers, *Dir. Armstrong and Slater Memorial Trade School.*
 Clara A. Adams, *Engl. and Reading.*
 Mrs. M. A. Armstrong, *Sci.*
 Alice M. Bacon, *Civics and Engl.*
 William L. Brown, *Bookkeeping*
 Harris Barrett, *Bookkeeping.*
 Cora F. Butler, *Bible, Engl., and Hist.*
 A. L. Cleveland, *Engl.*
 Bessie Cleaveland, *Vocal Music.*
 Rossa Cooley, *Sci. and Engl.*
 Jessie Coope, *Gymnastics.*
 Jane E. Davis, *Sci.*
 Dora Freeman, *Lit. and Bible.*
 Charles L. Goodrich, *Agr.*
 L. M. Goodrich, *Engl. and Arith.*
 John G. Hartelius, *Carpentry.*
 Emma Johnston, *Arith.*
 Jane Langley, *Methods and Psych.*
 J. F. La Crosse, *Painting.*
 D. R. Lewis, *Mech. Drawing.*
 Flora F. Lowe, *Engl. and Arith.*
 H. Magalhães, *Engl. and Sci.*
 Mary I. McNear, *Domestic Sci.*
 Celia Nettleton, *Training School.*
 Mary Nettleton, *in Charge Whittier School.*
 W. O. Nash, *Engl. and Geog.*
 L. A. Pratt, *Gymnastics.*
 Sarah E. Proctor, *Engl. and Geog.*
 Ira Richards, *Kindergarten.*
 William H. Scoville, *Hist.*
 Myrtilla J. Sherman, *Gram., Composition.*
 Emma F. Small, *Sloyd Teacher.*
 Clara M. Snow, *Engl. and Arith.*
 E. H. Spinnie, *Manual Training.*
 Alice L. Tucker, *Engl., Arith., and Geog.*
 Helen Tucker, *Reading, Arith.*
 M. W. Twitchell, *Engl., Arith., and Geog.*
 Thea Vallin, *Drawing.*
 Jessie Wier, *Sewing.*
 F. D. Wheelock, *Bible.*
 Julia Winter, *Bible, Engl., Geog., and Arith.*
 Jane S. Worcester, *Geog.*
 Leonora E. Herron, *Lib.*
 R. R. Moton, *Commandant of Cadets.*
 Allan Washington, *Asst. Commandant.*
 W. A. Webster, *Bricklaying and Plastering.*
 C. Duncan, *Blacksmithing.*
 E. C. De Yarmett, *Mech.*

WASHINGTON.

Washington Agricultural College and School of Science, Pullman.

COURSES OF STUDY.

Courses of study are offered in the following lines: Mathematics, civil engineering, mining engineering, chemistry, botany and zoology, agriculture, horticulture, English language and literature, economic science and history, electrical engineering, steam engineering, hydraulic engineering, military science and tactics, modern languages, and supplemental courses in Latin, physics, dairying, pharmacy, and veterinary science.

BOARD OF INSTRUCTION.

- E. A. Bryan, M. A., *Pres.; Hist. and Polit. Sci.*
 Albert E. Egge, PH. D., *Engl. Lang. and Lit.*
 Charles V. Piper, M. S., *Bot. and Zool.*
 George H. Watt, B. S., *Prin. Prep. Dept.*
 Eleazer Darrow, E. E., *Mech. Engin. and Phys.*
 Henry M. Lane, B. M. E., *(Asst.) Mech. Engin.*
 Osmar L. Waller, PH. M., *Math. and Civil Engin.*
 Elton Fulmer, M. A., *Chem.*
 W. Chase, 1st Lieut., 22d Infantry, U. S. A., *Mil. Sci. and Tactics.*
 William J. Spillman, M. S., *Agr.*
 Annie Howard, *Rhet. and Composition.*
 John A. Balmer, *Hort.*
 W. H. Heileman, B. S., *Asst. in Chem.*
 S. B. Nelson, D. V. M., *Vet. Sci.*
 R. W. Doane, B. A., *Asst. in Zool.*
 C. A. Barry, *Modern Lang.*
 W. J. Roberts, M. A., *(Asst.) Math.*
 Solon Shedd, B. A., *Sec. Faculty; (Asst.) Geol. and Min.*
 S. H. Webster, B. A., *Instr. Commercial Branches.*
 L. V. Corner, *Tutor Prep. Dept.*
 D. A. Brodie, *Tutor Prep. Dept.*
 H. C. McKinstry, *Instr. Butter Making.*
 Wm. Schwandt, *Instr. Cheese Making.*
 Lillian A. Bolster, *Instr. Piano.*

WEST VIRGINIA.

West Virginia University, Morgantown.

COURSES OF STUDY.

The four-year courses with degrees are: Classical course, B. A.; philosophical course, Ph. B.; modern literature course, B. L.; scientific course, B. S.; course in mechanical engineering, B. S. M. E.; course in civil engineering, B. S. C. E.; scientific course in agriculture, B. S. Agr. The two-year courses are: The short course in practical agriculture, leading to the degree of B. Agr., and the law course, leading to the degree of LL. B. Preparatory, graduate, and special courses are also offered.

BOARD OF INSTRUCTION.

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|---|---|
| Jerome H. Raymond, PH. D., <i>Pres.</i> ; <i>Sociology and Econ.</i> | A. D. Hopkins, PH. D., <i>Econ. Ent.</i> |
| Robert A. Armstrong, M. A., <i>V. Pres.</i> ; <i>Engl. Lit.</i> | W. E. Rumsey, B. AGR., <i>Bot.</i> |
| Okey Johnson, M. A., LL. B., <i>Dean Law College.</i> | A. J. Hare, B. A., <i>Prep. Prof. Ancient Lang. and Math.</i> |
| Thomas Clark Atkeson, PH. D., <i>Dean Agr. College; Agr.</i> | C. A. Ellenberger, <i>Music; Dir. School Music.</i> |
| James H. Stewart, M. A., <i>Dir. Agr. Expt. Sta.</i> | John A. Lockwood, 1st Lient., U. S. A., (<i>Acting</i>) <i>Mil. Sci. and Commandant Cadets.</i> |
| John I. Harvey, PH. D., <i>Modern Lang.</i> | Frederic W. Sanders, PH. D., (<i>Asst.</i>) <i>Pedag.</i> |
| P. B. Reynolds, D. D., <i>Philos.</i> | Frederick W. Truscott, PH. D., (<i>Asst.</i>) <i>Germanic Lang. and Lit.</i> |
| St. George T. Brooke, LL. D., <i>Common and Statute Law.</i> | Richard Ellsworth Fast, LL. B., <i>Instr. Hist. and Polit. Sci.</i> |
| Wm. P. Willey, M. A., <i>Equity, Jurisprudence, and Commercial Law.</i> | Jas. P. Whyte, B. A., <i>Instr. Rhet. and Elocution.</i> |
| Alexander R. Whitehill, PH. D., <i>General and Anal. Chem.</i> | Russell McMurphy, <i>Instr. Piano.</i> |
| Jas. W. Hartigan, M. A., M. D., <i>Biol.</i> | Grace Martin, <i>Instr. Piano.</i> |
| John L. Johnston, C. E., <i>Civil and Mining Engin.</i> | W. A. Mestrezat, <i>Instr. Band Instruments.</i> |
| Jas. S. Stewart, M. S., <i>Math.</i> | Eva M. Hubbard, <i>Instr. Painting and Drawing.</i> |
| Samuel B. Brown, M. A., <i>Geol.</i> | Frank W. Keene, <i>Instr. Violin, Guitar, and Mandolin.</i> |
| Thos. C. Miller, M. A., <i>Pedag.; Prin. Prep. School.</i> | Russell L. Morris, B. S. C. E., <i>Asst. in Civil and Mining Engin.</i> |
| Wm. S. Aldrich, M. E., <i>Mech. Engin.</i> | C. R. Jones, M. E., <i>Asst. in Mech. Engin.</i> |
| R. W. Douthat, PH. D., <i>Latin Lang. and Lit.</i> | D. J. Barton, <i>Asst. in Prep. School.</i> |
| Thos. E. Hodges, M. A., <i>Phys.</i> | D. M. Willis, <i>Prin. Commercial School.</i> |
| Lewis Cass Woolery, M. A., <i>Greek Lang. and Lit.</i> | Elizabeth Whitescarver, <i>Asst. in Commercial School.</i> |
| Frederick Lincoln Emory, B. S., M. E., <i>Mech. and Applied Math.</i> | Rufus West, <i>Asst. in Mech. Engin.</i> |
| C. C. Hewitt, Capt., U. S. A., <i>Mil. Sci. and Commandant Cadets.</i> | Waitman Barbe, M. A., <i>Field Agent.</i> |
| B. H. Hite, M. S., <i>Agr. Chem.</i> | Eliza J. Skinner, <i>Lib. Dir.</i> |
| L. C. Corbett, M. S. AGR., <i>Hort.</i> | Clara Hough, <i>Lib.</i> |
| | Frederick Moore, B. S., <i>Asst. in Lib.</i> |
| | W. C. Kilmer, <i>Asst. in Lib.</i> |

WISCONSIN.

College of Agriculture of the University of Wisconsin, *Madison*.

COURSES OF STUDY.

The long course requires four years, leading to the degree of B. Agr. The short course in agriculture lasts two terms of fourteen weeks each. The dairy course requires for admission four months' previous training in a creamery or cheese factory. The term lasts twelve weeks. To secure a dairy certificate the student must have two seasons' actual practice in a factory, one of which must follow his work at the dairy school. If all work is satisfactory, as reported on blanks and found by inspection, a dairy certificate is granted.

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LIST OF STATION PUBLICATIONS RECEIVED BY THE OFFICE OF EXPERIMENT STATIONS DURING 1897.¹

ALABAMA COLLEGE STATION.

Date.	Publication.	Title.
1895.	Annual Report.....	Eighth Annual Report, 1895.
1896.		
October.....	Bulletin 73.....	Edible Fungi: A Wasted Food Product.
October.....	Bulletin 74.....	Flour Considered from the Standpoint of Nutrition.
December.....	Bulletin 75.....	Experiments with Corn.
	Annual Report.....	Ninth Annual Report, 1896.
1897.		
January.....	Bulletin 76.....	Experiments with Cotton.
January.....	Bulletin 77.....	I. The San José Scale: A Warning to the Fruit Growers of Alabama. II. Some other Insect Pests: (a) The Tomato Worm. (b) Grape Leaf Hoppers. (c) Cabbage Worms.
February.....	Bulletin 78.....	Cooperative Fertilizer Experiments with Cotton in 1896.
March.....	Bulletin 79.....	Some Horticultural Suggestions.
April.....	Bulletin 80.....	A Preliminary List of Alabama Fungi.
May.....	Bulletin 81.....	Meat Inspection.
May.....	Bulletin 82.....	Corn, Cowpeas, and Wheat Bran for Fattening Pigs.
June.....	Bulletin 83.....	Hybrids from American and Foreign Cottons.
August.....	Bulletin 84.....	Turnips.
August.....	Bulletin 85.....	Japanese Plums.
August.....	Bulletin 86.....	I. More about the San José Scale. II. A Sweet Potato Pest. III. Regarding Carbon Bisulphid. IV. Insecticides and Pumps in General.
August.....	Bulletin 87.....	Soil Inoculation for Leguminous Plants.

ARIZONA STATION.

1897.		
January.....	Bulletin 22.....	Something About Weeds.
January.....	Bulletin 23.....	Sugar Beets.
January.....	Bulletin 24.....	Seventh Annual Report, 1896.
June.....	Bulletin 25.....	Eighth Annual Report, 1897.

ARKANSAS STATION.

1896.		
December.....	Annual Report.....	Ninth Annual Report, 1896.
	Bulletin 43.....	Report of the Horticulturist, 1896.
1897.		
January.....	Bulletin 44.....	Vegetable Gardening.
May.....	Bulletin 45.....	Milk: Its Decomposition and Preservation.
July.....	Bulletin 46.....	Experiments with Manures and Rotation for Improving Worn Cotton Soils. Experiments on Beef and Pork Production in Connection Therewith.
October.....	Bulletin 47.....	Concerning Fertilizers and Manures. After-effect of Manures.

¹A list of publications issued by the stations prior to January 1, 1892, was published in the Experiment Station Record, Vol. III, p. 937; a list of those issued during 1892 and 1893 in Bulletin 19 of the Office of Experiment Stations, p. 61; a list of those issued during 1894 in Bulletin 23, p. 58; a list of those issued for 1895 in Bulletin 27, p. 59, and a list of those for 1896 in Bulletin 39, p. 58.

Station publications received by the Office of Experiment Stations during 1897—Continued.

CALIFORNIA STATION.

Date.	Publication.	Title.
1896.		
September.....	Bulletin 111.....	The Work of the College of Agriculture and Experiment Stations.
November.....	Bulletin 112.....	Distribution of Seeds and Plants.
November.....	Bulletin 113.....	The Bleaching of Nuts by Dipping.
December.....	Bulletin 114.....	The Causes of "Frogging" and "Bloating" of Prunes.
December.....	Bulletin 115.....	Remedies for Insects and Fungi.
1897.	Viticultural Report...	Report of the Viticultural Work, 1887-'93.
	Appendix to Viticultural Report, 1896.	Resistant Vines: Their Selection, Adaptation, and Grafting.
May.....	Bulletin 116.....	The California Vine Hopper.
July.....	Bulletin 117.....	The Control of the Temperature in Wine Fermentation.

COLORADO STATION.

1896.		
September.....	Bulletin 35.....	Alfalfa.
	Annual Report.....	Ninth Annual Report, 1896.
1897.		
March.....	Bulletin 36.....	Sugar Beets.
March.....	Bulletin 37.....	The Birds of Colorado.
April.....	Bulletin 38.....	A Few Insect Enemies of the Orchard.
September.....	Bulletin 39.....	A Study of Alfalfa and Some Other Hays.
October.....	Bulletin 40.....	Barley.

CONNECTICUT STATE STATION.

1896.		
	Annual Report.....	Twentieth Annual Report, 1896. Part II. Fertilizers.
	Annual Report.....	Twentieth Annual Report, 1896. Part III. The Availability of Fertilizer Nitrogen. Commercial Fertilizers for Forcing House Crops. Scald or Burn of Tomatoes. Insect Notes. Prevention of Potato Scab. Winter Condition of Fungus of Peach Scab. Leaf Blight of Melons. A Fungus Disease of Tobacco. Shelling of Grapes. Experiments with Fertilizers on Tobacco. Field Experiments with Maize. Papers on Vegetable Proteids. Table of Contents and Index.
1897.		
	Annual Report.....	Twentieth Annual Report, 1896.
June.....	Bulletin 124.....	The Cost of Plant Food in Connecticut. Spring Months of 1897.
	Annual Report.....	Twenty-first Annual Report. Part I. Second Report on Food Products.

CONNECTICUT STORRS STATION.

1896.		
	Annual Report.....	Ninth Annual Report, 1896. Part III.
	Annual Report.....	Ninth Annual Report, 1896.

DELAWARE STATION.

1896.		
	Annual Report.....	Eighth Annual Report, 1896.
	Bulletin 32.....	Combating Anthrax in Delaware.
1897.		
January.....	Bulletin 34.....	The Treatment of Plant Diseases in 1896.
	Bulletin 35.....	The Cherry in Delaware.

FLORIDA STATION.

1896.		
November.....	Bulletin 37.....	The Pineapple at Myers.
	Annual Report.....	Annual Report, 1896.
1897.		
January.....	Bulletin 38.....	Tobacco in Florida.
July.....	Bulletin 39.....	Strawberry Culture for the Market and the Home.
July.....	Bulletin 40.....	The Fall Army Worm. Southern Grass Worm.
August.....	Bulletin 41.....	A Fungus Disease of the San José Scale.
August.....	Bulletin 42.....	Some Strawberry Insects.
September.....	Bulletin 43.....	A Chemical Study of Some Typical Soils of the Florida Peninsula.

Station publications received by the Office of Experiment Stations during 1897—Continued.

GEORGIA STATION.

Date.	Publication.	Title.
1896.		
October.....	Bulletin 33.....	The Cultivated Blackberries and Dewberries.
November.....	Bulletin 34.....	Corn Culture.
December.....	Bulletin 35.....	Cotton Culture.
	Annual Report.....	Ninth Annual Report, 1896.
1897.		
October.....	Bulletin 36.....	The San José and Other Scales in Georgia.

IDAHO STATION.

1896.		
	Annual Report.....	Annual Report, 1896.
1897.		
	Bulletin 10.....	Idaho Agriculture, Descriptive and Experimental.

ILLINOIS STATION.

1896.		
	Annual Report.....	Tenth Annual Report, 1896.
1897.		
January.....	Bulletin 46.....	Experiments with Corn. Attempts to Grow Crimson Clover. On the Improvement of Retentive Clays; Drainage of the so-called "Hard Pan" Lands of Southern Illinois. On the Importance of the Physiological Requirements of the Animal Body. Results of an Attempt to Grow Cattle Without Coarse Feed.
March.....	Bulletin 47.....	Broom Corn Smut.
April.....	Bulletin 48.....	The San José Scale in Illinois.

INDIANA STATION.

1896.		
October.....	Bulletin 62.....	The Udder of the Cow.
December.....	Bulletin 63.....	Bovine Tuberculosis in Indiana.
	Annual Report.....	Ninth Annual Report, 1896.
1897.		
April.....	Bulletin 64.....	Field Experiments with Corn, Oats, and Forage Plants.
June.....	Bulletin 65.....	Formalin for Prevention of Potato Scab.
October.....	Bulletin 66.....	Indoor Lettuce Culture.

IOWA STATION.

1897.		
	Bulletin 34.....	I. Studies of the Life Histories of Grass Feeding Jassidae. II. Weeds of the Mustard Family. III. Notes on Dairy Bacteriology. IV. Home Propagation. V. Crop Notes, 1896.
	Bulletin 35.....	I. Lamb Feeding. II. Fattening Range Lambs. III. Raising Calves on Separator Milk. IV. Hog Cholera and Swine Plague. V. Diseases of Sheep as Observed in Iowa. VI. Quick and Slow Ripening of Cream.

KANSAS STATION.

1896.		
December.....	Bulletin 62.....	Corn Smut.
December.....	Bulletin 63.....	Experiments with Oats.
	Annual Report.....	Ninth Annual Report, 1896.
1897.		
March.....	Bulletin 64.....	Experiments with Corn.
May.....	Bulletin 65.....	Grafting the Apple.
June.....	Bulletin 66.....	Kansas Weeds, IV. Fruits and Seeds.
June.....	Bulletin 67.....	Steer Feeding Experiments. VI.
June.....	Bulletin 68.....	Soil Moisture.
June.....	Bulletin 69.....	Some Diseases of Cattle: Texas Itch, Blackleg, Tuberculosis, Texas Fever.
June.....	Bulletin 70.....	Vegetable Growing.

Station publications received by the Office of Experiment Stations during 1897—Continued.

KENTUCKY STATION.

Date.	Publication.	Title.
1896.		
December	Bulletin 65.....	Analyses of Commercial Fertilizers.
1897.		
February	Bulletin 66.....	Tobacco.
May	Bulletin 67.....	The San José Scale in Kentucky.
May	Bulletin 68.....	Analyses of Commercial Fertilizers.
September.....	Bulletin 69.....	Wheat.

LOUISIANA STATIONS.

1896.		
	Annual Report	Ninth Annual Report, 1896.
1897.	Second series.	
	Bulletin 46.....	Leguminous Root Tubercles.
	Bulletin 47.....	Results of Experiments at State Experiment Station, Baton Rouge, La., in Corn, Cotton, Forage Crops, Tobacco, etc.
	Bulletin 48.....	Report of the Entomologist.

MAINE STATION.

1896.	Second series.	
October.....	Bulletin 30.....	Fertilizer Inspection.
November.....	Bulletin 31.....	Modification of the Babcock Method.
	Annual Report	Twelfth Annual Report, 1896.
1897.		
January	Bulletin 32.....	Three Troublesome Weeds: Orange Hawkweed, Wild Carrot, Buffalo Bur.
March.....	Bulletin 33.....	Fertilizer Inspection.
April.....	Bulletin 34.....	Box Experiments with Phosphates.
May.....	Bulletin 35.....	The Currant Fly. Gooseberry Fruit Fly.
August.....	Bulletin 36.....	Testing Seeds.
August.....	Bulletin 37.....	Feeding Stuff Inspection.
October.....	Bulletin 38.....	Fertilizer Inspection.
November.....	Bulletin 39.....	Stock Feeding Suggestions.
December.....	Bulletin 40.....	Celery.

MARYLAND STATION.

1896.		
December	Bulletin 43.....	Report Upon the Value of a New Corn Product.
December	Bulletin 44.....	The Soils of the Hagerstown Valley.
	Annual Report	Ninth Annual Report, 1896.
1897.		
February.....	Bulletin 45.....	Composition of Commercial Fertilizers Sold in this State.
March.....	Bulletin 46.....	Corn and Potato Experiments.
June.....	Bulletin 47.....	Dairy Farming.
June.....	Bulletin 48.....	Some Common Injurious Plant Lice, with Suggestions for their Destruction.
	Annual Report	Tenth Annual Report, 1897.

MASSACHUSETTS HATCH STATION.

1896.		
October.....	Bulletin 42.....	I. Analyses of Manurial Substances sent on for Examination. II. Analyses of Licensed Fertilizers Collected by the Agent of the Station during 1896. III. New Laws for the Regulation of the Trade in Commercial Fertilizers in Massachusetts.
December.....	Bulletin 96.....	Meteorological Monthly Summary.
	Annual Report	Ninth Annual Report, 1896.
1897.		
January.....	Bulletin 43.....	Electro-Germination.
March.....	Bulletin 44.....	Variety Tests of Fruits. Tests of Vegetable Seeds.
March.....	Bulletin 45.....	1. General Discussion on Commercial Fertilizers. 2. Analyses of Fertilizing Materials sent on for Examination. 3. New Fertilizer Law.
April.....	Bulletin 46.....	The Habits, Food, and Economic Value of the American Toad.

Station publications received by the Office of Experiment Stations during 1897—Continued.

MASSACHUSETTS HATCH STATION—Continued.

Date.	Publication.	Title.
1897.		
April.....	Bulletin 47.....	On Field Experiments with Tobacco in Massachusetts.
July.....	Bulletin 48.....	I. Analyses of Manurial Substances sent on for Examination. II. Analyses of Licensed Fertilizers Collected by the Agent of the Station during 1897.
July.....	Special Bulletin.....	The Brown Tail Moth.
January–November	Meteorological Bulletins.	Meteorological Bulletins 97 to 107.

MICHIGAN STATION.

1896.		
December.....	Bulletin 139.....	Bacteria: What they are and What they do.
December.....	Bulletin 140.....	Ropiness in Milk.
1897.		
February.....	Bulletin 141.....	Forage Crops and Wheat.
March.....	Bulletin 142.....	Small Fruit Trials at the College.
April.....	Bulletin 143.....	Fruit Tests at South Haven.
April.....	Bulletin 144.....	Vegetables—Old and New.

MINNESOTA STATION.

1896.		
December.....	Bulletin 48.....	Insects Injurious in 1896.
December.....	Bulletin 49.....	Rate of Increase on the Cut-over Timber Lands of Minnesota.
December.....	Bulletin 50.....	Progress at the Several Experiment Farms in 1896. Beans, Variety Tests. Barley, Variety Tests. Corn, Variety Tests. Oats, Variety Tests. Wheat, Variety Tests. Wheat, Smallest vs. Largest vs. Hardest Kernels for Seed. Rotation of Crops. Cross-Rotation Experiments. Root Crops, Variety Tests.
December.....	Bulletin 51.....	Bovine Tuberculosis.
December.....	Bulletin 52.....	Potatoes, Variety Tests in 1896.
	Annual Report.....	Potato Implements. Annual Report, 1896.
1897.		
June.....	Bulletin 53.....	Effects of the Rotation of Crops upon the Humus Content and the Fertility of Soils. Production of Humus from Manure.
September.....	Bulletin 54.....	Human Food Investigations. The Gluten of Wheat. The Digestibility and Composition of Bread. The Loss of Food Value by Prolonged Fermentation in Bread Making. The Digestibility of Potatoes, and the Loss of Food Value when Potatoes, Carrots, and Cabbages are Boiled in Different Ways. The Rational Feeding of Men.

MISSISSIPPI STATION.

1896.		
May.....	Bulletin 38.....	Mississippi Fungi. (Continuation of Bulletin 34.)
August.....	Bulletin 39.....	Feeding for Beef.
December.....	Bulletin 40.....	The Cowpea.
	Annual Report.....	Ninth Annual Report, 1896.
1897.		
March.....	Bulletin 41.....	The Colorado Potato Beetle in Mississippi.

MISSOURI STATION.

1896.		
April.....	Bulletin 34.....	Manures and Fertilizers. 1. Report on the Enforcement of the Fertilizer Control Law. 2. Fertilizer Tests with Wheat. 3. The Waste of Farm Manures. 4. Green Manuring.
July.....	Bulletin 35.....	The Woolly Aphis of the Apple.
October.....	Bulletin 36.....	The Lesser Apple Leaf Folder. The Leaf Crumpler.
	Annual Report.....	Annual Report, 1896.

Station publications received by the Office of Experiment Stations during 1897—Continued.

MISSOURI STATION—Continued.

Date.	Publication.	Title.
1897.		
January	Bulletin 37.....	Texas Fever. 1. Experiments Confirming the "Tick Theory." 2. Experiments on the Prevention of Texas Fever. 3. Disinfection of Pastures. 4. Experiments to Determine if the Australian Cattle Fever is Identical with Texas Fever.
April	Bulletin 38.....	Winter Protection of the Peach. Peach Growing in Missouri.

MONTANA STATION.

1896.		
June.....	Bulletin 11.....	Devices for Obtaining a Constant Flow in Laterals with Variable Heads in the Main Canals or Reservoirs.
September.....	Bulletin 12.....	Third Annual Report, 1896, and Bulletin on the Spaying of Mares.
1897.		
February.....	Bulletin 13.....	Drinking Water.

NEBRASKA STATION.

1896.		
January-July	Bulletin 46.....	Nebraska Weather and Climate for 1896.
	Annual Report	Tenth Annual Report, 1896.
1897.		
February 1	Bulletin 47.....	Serum Therapy in Hog Cholera.
April 20	Bulletin 48.....	Windbreaks.
April 22	Bulletin 49.....	Suggestions for Chicory Culture.
November 10.....	Bulletin 50.....	Notes on Pruning.

NEVADA STATION.

1894.		
	Annual Report	Seventh Annual Report, 1894.
1895.		
	Annual Report	Eighth Annual Report, 1895.
1896.		
December.....	Bulletin 32.....	Sugar Beets.
November	Bulletin 33.....	Field Notes on Some Nevada Grasses.

NEW HAMPSHIRE STATION.

1896.		
November.....	Bulletin 40.....	Eighth Annual Report, 1896.
1897.		
January.....	Bulletin 41.....	Potatoes: Varieties, Fertilizers, and Scab.
February.....	Bulletin 42.....	I. Tomato Growing in New Hampshire. II. Notes on Tomato Breeding.
February.....	Bulletin 43.....	Some Inferior Wood Ashes.
April.....	Bulletin 44.....	The Cankerworm.
May.....	Bulletin 45.....	Fruit and Potato Diseases.
August.....	Bulletin 46.....	I. An Experiment with a Steam Drill. II. Methods of Road Maintenance.

NEW JERSEY STATIONS.

1896.		
November.....	Bulletin 117.....	Analyses of Fertilizer Supplies and Home Mixtures. Analyses and Valuations of Commercial Fertilizers and Ground Bone.
November.....	Bulletin 118.....	The Suppression and Prevention of Tuberculosis of Cattle and its Relation to Human Consumption.
	Annual Report	Seventeenth Annual Report of the State Station and Ninth of the College Station, 1896.
1897.		
March.....	Bulletin 119.....	Apple Growing in New Jersey.
March.....	Bulletin 120.....	Field Experiments With Potatoes for 1896.
March.....	Bulletin 121.....	The Harlequin Cabbage Bug and the Melon Plant Louse.
August.....	Bulletin 122.....	The Cost and Feeding Value of the Dry Matter of Dried Corn Fodder and of Silage.
September.....	Bulletin 123.....	Milk: Its Value as a Food, and Studies which Suggest a Different Method of Sale.

Station publications received by the Office of Experiment Stations during 1897—Continued.

NEW MEXICO STATION.

Date.	Publication.	Title.
1896.		
December.....	Bulletin 20.....	Seeds.
	Annual Report.....	Seventh Annual Report, 1896.
1897.		
January.....	Bulletin 21.....	Results of Experiments at the San Juan Substation.
March.....	Bulletin 22.....	Alkali in the Rio Grande and Animas Valleys.

NEW YORK STATE STATION.

1896.	New series.	
November.....	Bulletin 112.....	Economy in Using Fertilizers for Raising Potatoes.
December.....	Bulletin 113.....	The Cucumber Flea-Beetle as the Cause of "Pimply" Potatoes.
1897.		
January.....	Bulletin 114.....	Gooseberries.
January.....	Bulletin 115.....	Director's Report for 1896.
January.....	Bulletin 116.....	Report of Analyses of Commercial Fertilizers for the Fall of 1896.
March.....	Bulletin 117.....	Treatment of Leaf Spot in Plum and Cherry Orchards in 1896.
March.....	Bulletin 118.....	Alfalfa.
March.....	Bulletin 119.....	The Downy Mildew of the Cucumber: What it is and How to Prevent it.
March.....	Bulletin 120.....	A Practical Method of Fighting Cutworms in Onion Fields.
March.....	Bulletin 121.....	Spray Pumps and Spraying.
April.....	Bulletin 122.....	The Pistol Case Bearer.
April.....	Bulletin 123.....	Spraying Potatoes on Long Island in the Season of 1896.
April.....	Bulletin 124.....	Anthracnose of the Black Raspberry.
April.....	Bulletin 114.....	Popular edition.
April.....	Bulletin 114.....	Gooseberries: Best Varieties and How to Grow them.
March.....	Bulletin 117.....	Spraying for Plum and Cherry Leaf Spot: How Often? When?
April.....	Bulletin 118.....	Alfalfa: Its Value, Culture, and Use.
April.....	Bulletin 119.....	The Downy Mildew of the Cucumber and its Treatment.
April.....	Bulletin 120.....	Onion Cutworms: Their Ravages and Treatment.
April.....	Bulletin 121.....	Spraying Mixtures, and Their Application.
1897.		
April.....	Bulletin 122.....	A Peculiar Insect Enemy of the Pear.
April.....	Bulletin 123.....	Does it Pay to Spray Potatoes?
April.....	Bulletin 124.....	Preventive Treatment of Raspberry Anthracnose.

NEW YORK CORNELL STATION.

1895.		
	Annual Report.....	Eighth Annual Report, 1895.
1896.		
December.....	Bulletin 122.....	Second Report upon Extension Work in Horticulture.
December.....	Bulletin 123.....	Green Fruit Worms.
1897.		
January.....	Bulletin 124.....	The Pistol Case Bearer.
February.....	Bulletin 125.....	A Disease of Currant Canes.
February.....	Bulletin 126.....	The Currant Stem Girdler and The Raspberry Cane Maggot.
February.....	Bulletin 127.....	A Second Account of Sweet Peas.
February.....	Bulletin 128.....	A Talk about Dahlias.
February.....	Bulletin 129.....	How to Conduct Field Experiments with Fertilizers.
March.....	Bulletin 130.....	Potato Culture.
March.....	Bulletin 131.....	Notes upon Plums for Western New York.
March.....	Bulletin 132.....	Notes upon Celery.
April.....	Bulletin 133.....	The Army Worm in New York.
April.....	Bulletin 134.....	Strawberries under Glass.
May.....	Bulletin 135.....	Forage Crops.
May.....	Bulletin 136.....	Chrysanthemums of 1896.
May.....	Bulletin 137.....	Agricultural Extension Work: Sketch of its Origin and Progress.
September.....	Bulletin 138.....	Studies and Illustrations of Mushrooms: I.
October.....	Bulletin 139.....	Third Report upon Japanese Plums.
November.....	Bulletin 140.....	Second Report on Potato Culture.
November.....	Bulletin 141.....	Powdered Soap as a Cause of Death Among Swill-Fed Hogs.
	Annual Report.....	Tenth Annual Report, 1897.

Station publications received by the Office of Experiment Stations during 1897—Continued.

NORTH CAROLINA STATION.

Date.	Publication.	Title.
1895.		
1896.	Annual Report	Eighteenth Annual Report, 1895.
October 20	Bulletin 132	The Home Vegetable Garden and its Pests.
December 18	Bulletin 133	Some New Forage, Fiber, and Other Useful Plants.
	Biennial Report	Ninth Biennial Report, 1895-'96.
	Annual Report	Nineteenth Annual Report, 1896.
1897.		
January 12	Bulletin 136	Fertilizer Analyses of the Fertilizer Control.
January 20	Bulletin 137	A Warning in Regard to Compost Peddlers.
January 30	Bulletin 138	The San José Scale in North Carolina.
February 8	Bulletin 139	Home-Mixed Fertilizers and Composts.
May 10	Bulletin 140	Volumetric Estimation of Phosphoric Acid.
July 21	Bulletin 141	A New Tobacco Pest.
August 23	Bulletin 142	Comfortable Low-Cost Barns.
September 30	Bulletin 143	Feeding Experiments, Milk Records, etc.
October 30	Bulletin 144	Ornithology of North Carolina.
	SPECIAL.	
February 20	Bulletin 40	Fertilizer Analyses of the Fertilizer Control.
March 6	Bulletin 41	Do.
March 20	Bulletin 42	Do.
April 3	Bulletin 43	Do.
April 17	Bulletin 44	Do.
May 1	Bulletin 45	Do.
May 22	Bulletin 46	Do.
June 26	Bulletin 47	Do.

NORTH DAKOTA STATION.

1896.		
November	Bulletin 26	Feeding of Millet to Horses.
	Annual Report	Seventh Annual Report, 1896.
1897.		
March	Bulletin 27	New Studies upon the Smut of Wheat, Oats, and Barley, With a Résumé of Treatment Experiments for the Last Three Years.
June	Bulletin 28	Grain Rations for Fattening Sheep: Value of Straw in a Ration, and the Gains Made after Twelve Weeks' Feeding; "Diseases of Sheep," a reprint of Bulletin 3.
September	Bulletin 29	A Study of Methods of Cultivation. I. At the Station. II. At Other Points in the State.

OHIO STATION.

1896.		
December	Bulletin 73	Investigations of Plant Diseases in Forcing House and Garden. I. Diseases of Lettuce. II. Diseases Caused by Nematodes. III. Leaf Mildews—Spraying With Fungicides under Glass. IV. Diseases of Cucurbits. V. Tomato Diseases.
December	Bulletin 74	Fifteenth Annual Report, 1896.
1897.		
January	Bulletin 75	Beet Sugar Production.
February	Bulletin 76	Potatoes: Cultural Notes, Variety Tests, Experiments with Fertilizers.
February	Bulletin 77	The Chinch Bug and Other Destructive Insects.
April	Bulletin 78	Corn: Cultural Investigations; Comparison of Varieties, and Corn Smut.
April	Bulletin 79	Some Diseases of Orchard and Garden Fruits.
July	Bulletin 80	The Maintenance of Fertility; Field Experiments with Fertilizers in 1896.
July	Bulletin 81	The San José Scale in Ohio.
August	Bulletin 82	Field Experiments with Wheat. Comparison of Varieties. Cultural Investigations.
September	Bulletin 85	Strawberries. Cultural Notes and Variety Tests.

Station publications received by the Office of Experiment Stations during 1897—Continued.

OKLAHOMA STATION.

Date.	Publication.	Title.
1897.		
January	Bulletin 22.....	Climate and Crops in Oklahoma. Field Experiments with Kafir Corn.
February	Bulletin 23.....	Cotton Culture in Oklahoma.
May	Bulletin 24.....	Oklahoma Soil Studies.
June.....	Bulletin 25.....	Loss by Exposure of Corn Stover and Teosinte. Composition of Pie Melon. Fertilizer Analyses of Castor Bean Plant.
June.....	Bulletin 26.....	Some Injurious Orchard Insects.
June.....	Bulletin 27.....	Glanders. Texas Fever. Symptomatic Anthrax.
June.....	Bulletin 28.....	Experiments with Wheat, 1896-'97.
September.....	Bulletin 29.....	A Study of Waters for Irrigation. The Irrigation Plant.
	Annual Report	Annual Report, 1897.

OREGON STATION.

1897.		
February	Bulletin 43.....	Flax Culture.
March	Bulletin 44.....	A Review of Oregon Sugar Beets.
June.....	Bulletin 45.....	Prunes in Oregon.
June.....	Bulletin 46.....	A Plant that Poisons Cattle. Cicuta.
September.....	Bulletin 47.....	The Relative Digestibility of Cheat and Clover.

PENNSYLVANIA STATION.

1896.		
November	Bulletin 37.....	Peach Industry in Pennsylvania.
December.....	Bulletin of Information No. 1.	The Computation of Rations for Farm Animals.
1897.		
January	Bulletin 38.....	A Test of Hand Separators.

RHODE ISLAND STATION.

1896.		
December.....	Bulletin 42.....	Fertilizers.
1897.		
January	Bulletin 43.....	Additional Tests of Garden Seeds.
March	Bulletin 44.....	Celery.
April	Bulletin 45.....	The Loganberry from Seed to Fruitage.
August.....	Bulletin 46.....	Lime and Liming.

SOUTH CAROLINA STATION.

1896.	New series.	
October.....	Bulletin 27.....	Wounds and Their Treatment.
	Annual Report	Ninth Annual Report, 1896.
1897.		
June.....	Bulletin 28.....	The Sweet Potato as a Starch Producer.
April	Bulletin 29.....	Analyses of Commercial Fertilizers.
June.....	Bulletin 30.....	The Determination of Starch in the Sweet Potato.
October.....	Bulletin 31.....	Hog Cholera and Swine Plague.
November.....	Bulletin 32.....	Protection and Improvement of Worn Soils.

SOUTH DAKOTA STATION.

1896.		
December	Bulletin 49.....	Shallow Artesian Wells of South Dakota.
	Annual Report	Ninth Annual Report, 1896.
1897.		
January	Bulletin 50.....	Fruit Culture.
February.....	Bulletin 51.....	Forage Plants for South Dakota. Silos and Silage.
March	Bulletin 52.....	Irrigation in South Dakota.
April	Bulletin 53.....	Forestry in South Dakota.
May	Bulletin 54.....	Subsoiling.
June.....	Bulletin 55.....	Feeding Sheep in South Dakota.

Station publications received by the Office of Experiment Stations during 1897—Continued.

TENNESSEE STATION.

Date.	Publication.	Title.
1896.		
September	Bulletin, Vol. IX, No. 3.	A Contribution to the Study of Southern Feeding Stuffs.
December	Bulletin, Vol. IX, No. 4.	Varieties of Grapes.
	Annual Report	Ninth Annual Report, 1896.
1897.		
January	Bulletin, Vol. X, No. 1.	Apples of Tennessee Origin (Second Report).
June	Bulletin, Vol. X, No. 2.	Pot Culture of Lettuce.

TEXAS STATION.

1896.		
September	Bulletin 40.....	Field Experiments at College Station with Corn, Cotton, and Forage Plants.
December	Bulletin 41.....	Steer Feeding.
	Annual Report	Ninth Annual Report, 1896.

UTAH STATION.

1896.		
November	Bulletin 46.....	Earthen Dams.
	Annual Report	Seventh Annual Report. 1896.
1897.		
February	Bulletin 47.....	The Climate of Utah.
March	Bulletin 48.....	Alfalfa or Lucern: Its Chemical Life History.
April	Bulletin 49.....	Spraying.
June	Bulletin 50.....	The Water Supply of Cache Valley.
	Annual Report	Eighth Annual Report, 1897.

VERMONT STATION.

1896.		
December	Annual Report	Tenth Annual Report, 1896.
	Bulletin 55.....	Apple Growing in Grand Isle County.
1897.		
February	Bulletin 56.....	Orange Hawkweed or "Paint Brush."
March	Bulletin 57.....	Analyses of Commercial Fertilizers.
April	Bulletin 58.....	Do.
May	Bulletin 59.....	Do.

VIRGINIA STATION.

1895.		
October	Bulletin 57.....	The Utilization of Unmerchantable Apples.
November	Bulletin 58.....	A New Plan for the Construction of a Storage Cellar.
December	Bulletin 59.....	Experiment Garden Notes. Part I.
1896.		
January	Bulletin 60.....	Experiment Garden Notes. Part II.
April	Bulletin 63.....	Laboratory Tests of Creolin as a Disinfectant.
May	Bulletin 64.....	Some Parasitical Diseases of Sheep.
June	Bulletin 65.....	Notes on the Cherry Orchard.
July	Bulletin 66.....	The Distribution of the San José Scale in Virginia.
August	Bulletin 67.....	Notes on the Plum Orchard.
September	Bulletin 68.....	Silage for Hogs.
October	Bulletin 69.....	Tests of Fertilizers on Wheat.
November	Bulletin 70.....	Cheap Silos in Virginia.
	Annual Report	Annual Report. 1896.

WASHINGTON STATION.

1896.		
October	Bulletin 21.....	Susceptibility of Spermatophytes to Pathogenic Bacteria.
October	Bulletin 22.....	Influenza.
October	Bulletin 23 (Technical Series 1).	Some Notes Concerning the Nitrogen Content of Soils and Humus.
October	Bulletin 24.....	The Acid Test for Milk and Cream.
December	Bulletin 25.....	Pruning Orchard Trees.
December	Bulletin 26.....	Experiments in the Culture of the Sugar Beet in Washington for 1895 and 1896.
1897.		
January	Bulletin 27.....	A Few Facts about Insects.
January	Bulletin 28.....	Clearing Land.

Station publications received by the Office of Experiment Stations during 1897—Continued.

WEST VIRGINIA STATION.

Date.	Publication.	Title.
1891.	Annual Report	Fourth Annual Report, 1891.
1892.	Annual Report	Fifth Annual Report, 1892.
1893.	Annual Report	Sixth Annual Report, 1893.
1894.	Annual Report	Seventh Annual Report, 1894.
1895.	Annual Report	Eighth Annual Report, 1895.
1896.		
December	Bulletin 45.	Chickens.
December	Bulletin 46.	Fertilizer Analyses.
December	Bulletin 47.	Apples.
December	Bulletin 48.	Raspberries.
1897.	Annual Report	Ninth Annual Report, 1896.
March	Bulletin 49.	Vegetables.

WISCONSIN STATION.

1897.		
March	Bulletin 55.	Beet Sugar Production: Possibilities for a New Industry in Wisconsin.
March	Bulletin 56.	Statistics from Fifty-two Wisconsin Separator Creameries.
March	Bulletin 57.	Analyses of Licensed Fertilizers.
April	Bulletin 58.	The Rape Crop: Its Growth and Value for Soiling and Fattening Sheep and Swine.
May	Bulletin 59.	The Construction of Silos and the Making and Handling of Silage.
May	Bulletin 60.	The Cheese Industry: Its Development and Possibilities in Wisconsin.
September	Bulletin 61.	The Constitution of Milk with Especial Reference to Cheese Production.
September	Bulletin 62.	Tainted or Defective Milks: Their Causes and Methods of Prevention.

WYOMING STATION.

1896.		
	Annual Report	Sixth Annual Report, 1896.
1897.		
March	Bulletin 32.	Potatoes.
June	Bulletin 33.	The Composition of Prepared Cereal Foods.
	Annual Report	Seventh Annual Report, 1897.

FEDERAL LEGISLATION AFFECTING AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

ACT OF 1862 DONATING LANDS FOR AGRICULTURAL COLLEGES.

AN ACT donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided,* That no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections, not less than one-quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act and for no other use or purpose whatsoever: *Provided,* That in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents, or less, per acre: *And provided further,* That not more than one million acres shall be located by such assignees in any one of the States: *And provided further,* That no such location shall be made before one year from the passage of this act.

SEC. 3. That all the expenses of management, superintendence, and taxes from date of selection of said lands, previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided

in section fifth of this act), and the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained the previous assent of the several States shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum, not exceeding ten per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their cost and results and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double the minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

Sixth. No State while in a condition of rebellion or insurrection against the Government of the United States shall be entitled to the benefit of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its legislature within two years from the date of its approval by the President.

SEC. 6. That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws: *Provided*, Their maximum compensation shall not be thereby increased.

SEC. 8. That the governors of the several States to which scrip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved, July 2, 1862.

ACT OF 1887 ESTABLISHING AGRICULTURAL EXPERIMENT STATIONS.

AN ACT to establish agricultural experiment stations in connection with the colleges established in the several States under the provisions of an act approved July second, eighteen hundred and sixty-two, and of the acts supplementary thereto.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges or agricultural department of colleges in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an act approved July second, eighteen hundred and sixty-two, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "agricultural experiment station:" *Provided,* That in any State or Territory in which two such colleges have been or may be so established the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate from time to time such lines of inquiry as to him shall seem most important; and, in general, to furnish such advice and assistance as will best promote the purpose of this act. It shall be the duty of each of said stations annually, on or before the first day of February, to make to the governor of the State or Territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the said Commissioner of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports and the annual reports of said stations shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster-General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of fifteen thousand dollars per annum is hereby appropriated to

each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the Treasury proceeding from the sales of public lands, to be paid in equal quarterly payments on the first day of January, April, July, and October in each year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, eighteen hundred and eighty-seven: *Provided, however,* That out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement, or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

SEC. 6. That whenever it shall appear to the Secretary of the Treasury from the annual statement of receipts and expenditures of any of said stations that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this act and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations so established by such States; and in case any State shall have established under the provisions of said act of July second, aforesaid, an agricultural department or experimental station, in connection with any university, college, or institution not distinctively an agricultural college or school, and such State shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the legislature of such State may apply in whole or in part the appropriation by this act made to such separate agricultural college or school, and no legislature shall by contract, express or implied, disable itself from so doing.

SEC. 9. That the grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided,* That payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the Treasury to any or all the States or institutions mentioned in this act, but Congress may at any time amend, suspend, or repeal any or all the provisions of this act.

Approved, March 2, 1887.

ACT OF 1890 FOR THE FURTHER ENDOWMENT OF AGRICULTURAL COLLEGES.

AN ACT to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July second, eighteen hundred and sixty-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and hereby is, annually appropriated, out of any money in the Treasury not otherwise appropriated, arising from the sales of public lands, to be paid as hereinafter provided, to each State and Territory for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts now established, or which may be hereafter established,

in accordance with an act of Congress approved July second, eighteen hundred and sixty-two, the sum of fifteen thousand dollars for the year ending June thirtieth, eighteen hundred and ninety, and an annual increase of the amount of such appropriation thereafter for ten years by an additional sum of one thousand dollars over the preceding year, and the annual amount to be paid thereafter to each State and Territory shall be twenty-five thousand dollars, to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction: *Provided*, That no money shall be paid out under this act to any State or Territory for the support and maintenance of a college where a distinction of race or color is made in the admission of students, but the establishment and maintenance of such colleges separately for white and colored students shall be held to be a compliance with the provisions of this act if the funds received in such State or Territory be equitably divided as hereinafter set forth: *Provided*, That in any State in which there has been one college established in pursuance of the act of July second, eighteen hundred and sixty-two, and also in which an educational institution of like character has been established, or may be hereafter established, and is now aided by such State from its own revenue, for the education of colored students in agriculture and the mechanic arts, however named or styled, or whether or not it has received money heretofore under the act to which this act is an amendment, the legislature of such State may propose and report to the Secretary of the Interior a just and equitable division of the fund to be received under this act, between one college for white students and one institution for colored students, established as aforesaid, which shall be divided into two parts, and paid accordingly, and thereupon such institution for colored students shall be entitled to the benefits of this act and subject to its provisions, as much as it would have been if it had been included under the act of eighteen hundred and sixty-two, and the fulfillment of the foregoing provisions shall be taken as a compliance with the provision in reference to separate colleges for white and colored students.

SEC. 2. That the sums hereby appropriated to the States and Territories for the further endowment and support of colleges shall be annually paid on or before the thirty-first day of July of each year, by the Secretary of the Treasury, upon the warrant of the Secretary of the Interior, out of the Treasury of the United States, to the State or Territorial treasurer, or to such officer as shall be designated by the laws of such State or Territory to receive the same, who shall, upon the order of the trustees of the college, or the institution for colored students, immediately pay over said sums to the treasurers of the respective colleges or other institutions entitled to receive the same, and such treasurers shall be required to report to the Secretary of Agriculture and to the Secretary of the Interior, on or before the first day of September of each year, a detailed statement of the amount so received and of its disbursement. The grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purpose of said grants: *Provided*, That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof, duly certified to the Secretary of the Treasury.

SEC. 3. That if any portion of the moneys received by the designated officer of the State or Territory for the further and more complete endowment, support, and maintenance of colleges, or of institutions for colored students, as provided in this act, shall, by any action or contingency, be diminished or lost, or be misapplied, it shall be replaced by the State or Territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such State or Territory; and no portion of said moneys shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or

buildings. An annual report by the president of each of said colleges shall be made to the Secretary of Agriculture, as well as to the Secretary of the Interior, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any experiment stations attached to said colleges, with their costs and results, and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail free to all other colleges further endowed under this act.

SEC. 4. That on or before the first day of July in each year, after the passage of this act, the Secretary of the Interior shall ascertain and certify to the Secretary of the Treasury as to each State and Territory whether it is entitled to receive its share of the annual appropriation for colleges, or of institutions for colored students, under this act, and the amount which thereupon each is entitled, respectively, to receive. If the Secretary of the Interior shall withhold a certificate from any State or Territory of its appropriation the facts and reasons therefor shall be reported to the President, and the amount involved shall be kept separate in the Treasury until the close of the next Congress, in order that the State or Territory may, if it should so desire, appeal to Congress from the determination of the Secretary of the Interior. If the next Congress shall not direct such sum to be paid it shall be covered into the Treasury. And the Secretary of the Interior is hereby charged with the proper administration of this law.

SEC. 5. That the Secretary of the Interior shall annually report to Congress the disbursements which have been made in all the States and Territories, and also whether the appropriation of any State or Territory has been withheld, and if so, the reasons therefor.

SEC. 6. Congress may at any time amend, suspend, or repeal any or all of the provisions of this act.

Approved, August 30, 1890.

EXTRACTS FROM AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF AGRICULTURE FOR THE FISCAL YEAR ENDING JUNE THIRTIETH, EIGHTEEN HUNDRED AND NINETY-EIGHT.

AGRICULTURAL EXPERIMENT STATIONS, OFFICE OF EXPERIMENT STATIONS: To carry into effect the provisions of an act approved March second, eighteen hundred and eighty-seven, entitled "An act to establish agricultural experiment stations in connection with the colleges established in the several States under the provisions of an act approved July second, eighteen hundred and sixty-two, and of the acts supplementary thereto," and to enforce the execution thereof, seven hundred and fifty-five thousand dollars, thirty thousand dollars of which sum shall be payable upon the order of the Secretary of Agriculture to enable him to carry out the provisions of section three of the said act of March second, eighteen hundred and eighty-seven; and five thousand dollars of which sum may be expended by the Secretary of Agriculture to investigate and report to Congress upon the agricultural resources and capabilities of Alaska, with special reference to the desirability and feasibility of the establishment of agricultural experiment stations in said Territory, as has been done in other States and Territories, and the selection of suitable locations for such stations; and the Secretary of Agriculture shall prescribe the form of the annual financial statement required by section three of said act of March second, eighteen hundred and eighty-seven, shall ascertain whether the expenditures under the appropriation hereby made are in accordance with the provisions of the said act, and shall make report thereon to Congress; and the Secretary of Agriculture is hereby authorized to employ such assistants, clerks, and other persons as he may deem necessary, and to incur such other expenses for office fixtures and supplies, stationery, traveling, freight, and express charges, illustration and publication of

the Experiment Station Record, bulletins, and reports, as he may find essential in carrying out the objects of the above acts; and the sums apportioned to the several States shall be paid quarterly in advance. And the Secretary of Agriculture is hereby authorized to furnish to such institutions or individuals as may care to buy it, copies of the card index of agricultural literature prepared by the Office of Experiment Stations, and charge for the same a price covering the additional expense involved in the preparation of these copies; and he is hereby authorized to apply the moneys received toward the expense of the preparation of the index.

NUTRITION INVESTIGATIONS: To enable the Secretary of Agriculture to investigate and report upon the nutritive value of the various articles and commodities used for human food, with special suggestions of full, wholesome, and edible rations less wasteful and more economical than those in common use, fifteen thousand dollars; and the agricultural experiment stations are hereby authorized to cooperate with the Secretary of Agriculture in carrying out said investigations in such manner and to such extent as may be warranted by a due regard to the varying conditions and needs of the respective States and Territories, and as may be mutually agreed upon; and the Secretary of Agriculture is hereby authorized to require said stations to report to him the results of any such investigations which they may carry out, whether in cooperation with said Secretary of Agriculture or otherwise.

PUBLIC-ROAD INQUIRIES: To enable the Secretary of Agriculture to make inquiries in regard to the system of road management throughout the United States; to make investigations in regard to the best methods of road making, and the best kind of road-making materials in the several States; for labor, traveling, and other necessary expenses, and for preparing and publishing bulletins and reports on this subject for distribution, and to enable him to assist the agricultural colleges and experiment stations in disseminating information on this subject, eight thousand dollars.

REGULATIONS OF THE POST-OFFICE DEPARTMENT FOR THE FREE TRANSMISSION IN THE MAILS OF THE BULLETINS AND REPORTS OF AGRICULTURAL EXPERIMENT STATIONS UNDER THE ACT OF CONGRESS OF MARCH 2, 1887.

Section 372 of the Postal Laws and Regulations of the United States reads as follows: Regulations for free transmission of bulletins and reports [under the act of Congress of March 2, 1887], are prescribed as follows:

(1) Any claimant of the privilege must apply for authority to exercise it to the Postmaster-General, stating the date of the establishment of such station, its proper name or designation, its official organization, and the names of its officers; the name of the university, college, school, or institution to which it is attached, if any, the legislation of the State or Territory providing for its establishment, and any other granting it the benefits of the provision made by Congress as aforesaid (accompanied by a copy of the act or acts), and whether any other such station in the same State or Territory is considered, or claims to be, also entitled to the privilege; and also the place of its location and the name of the post-office where the bulletins and reports will be mailed. The application must be signed by the officer in charge of the station.

(2) If such application be allowed after examination by the Department, the postmaster at the proper office will be instructed to admit such bulletins and reports to the mails in compliance with these regulations, and the officer in charge of the station will be notified thereof.

(3) Only such bulletins or reports as shall have been issued after the station became entitled to the benefits of the act can be transmitted free, and such bulletins or reports may be inclosed in envelopes or wrappers, sealed or unsealed. On the exterior of every envelope, wrapper, or package must be written or printed the name of the station and place of its location, the designation of the inclosed bulletin or report, and the word "Free" over the signature or facsimile thereof of the officer in charge of the station, to be affixed by himself or by someone duly deputed by him for that purpose. There may also be written or printed upon the envelope or wrapper a request that the postmaster at the office of delivery will notify the mailing station of the change of address of the addressee, or other reason for inability to deliver the same, and upon a bulk package a request to the postmaster to open and distribute the "franked" matter therein, in accordance with the address thereon.

Bulletins published by the United States Department of Agriculture and analogous to those of the station, and entitled to be mailed free under the penalty envelope of that Department, may also be adopted and mailed by the several stations, with their own publications, under the same regulations, and any bulletins or reports mailable free by any agricultural experiment station under these regulations may be so mailed by any other station having free mailing authority.

If such station's annual reports be printed by State authority, and consist in part of matter relating to the land-grant college to which such station is attached then said report may be mailed free entire by the director of the station; provided, in his judgment, the whole consists of useful information of an agricultural character.

(4) The bulletins may be mailed to the stations, newspapers, or persons to whom they are by the foregoing act authorized to be sent, and the annual reports to any address within the United States, Canada, Mexico, or Hawaiian Kingdom (Sandwich Islands), but not to other foreign countries, free of postage.

Among other rulings on matters of detail the following are the most important.

"In sending out bulletins from an agricultural experiment station it is permissible to inclose postal cards to enable correspondents of the station to acknowledge the receipt of its publications and to request their continuous transmission.

"Copies of the reports or bulletins of the agricultural experiment stations, which are purchased, paid or subscribed for, or otherwise disposed of for gain, when sent in the mails, are not entitled to free carriage under the 'frank' of the director of the station."

Station bulletins and reports consisting of typewritten matter duplicated on a mimeograph or other duplicating machine "retain their character as free matter when properly franked by the director of the station."

Station bulletins and reports printed in connection with the reports of State boards of agriculture or other State boards, commissioners, or officers can not be sent free through the mails under the frank of the director of the station.

The catalogue of the college of which the station is a department can not be sent free through the mails under the frank of the director of the station whether said catalogue is published separately or is bound together with a station publication.

RULINGS OF THE TREASURY DEPARTMENT AS TO THE CONSTRUCTION OF THE ACT OF CONGRESS OF MARCH 2, 1887, ESTABLISHING AGRICULTURAL EXPERIMENT STATIONS.

From copies of letters addressed to the Secretary of the Treasury and others by the First Comptroller of the Treasury, relating to the construction of the act of Congress of March 2, 1887, and acts supplementary thereto, the following digest has been prepared for the use of the stations. The sections are those of the act, the dates those of the decisions by the Comptroller:

Section 3—January 30, 1888.

That the annual financial statement of the stations, with vouchers, should not be sent to the Treasury Department, but that a copy simply of the report that is made to the governor is to be sent to the Secretary of the Treasury.

Section 3—January 31, 1888.

First. That the Treasury Department will not require officers of experiment stations to do or perform anything not specifically required by said bill.

Second. That the Secretary of the Treasury is not required to take a bond of the officers of said stations for the money paid over under the provisions of said act.

Third. That no reports will be required from the stations directly to the Secretary of the Treasury; but the governor of the State must send to the Secretary of the Treasury a copy of the report made to him by the colleges or stations

Section 4—December 16, 1895.

The Solicitor of the Treasury writes: "I am of the opinion that there is no authority for an agricultural experiment station to sell its bulletins outside of the State or Territory. Congress appropriates for the publication and free distribution of the bulletins, and neither expressly or by necessary implication authorizes their sale."

Section 5—March 4, 1887.

"Congress only intended by the expression 'the sum of fifteen thousand dollars is hereby appropriated to each State,' to fix the amount that could be specially provided for by Congress in appropriations from year to year. Hence I conclude that section 5 does not make an appropriation; but that the same must be specially provided for by Congress."

Sections 5 and 6—March 10, 1888.

(1) The appropriations are intended for the fiscal year and not the calendar year.

(2) The first annual report should be made on or before the 1st day of February, 1889, and said report should include simply the operations of the preceding fiscal year, not down to and including December 31, but up to and including June 30, 1888.

(3) The balance unexpended at the end of the fiscal year, the 30th of June preceding the report, must be accounted for in the report.

(4) The one-fifth proviso for building in section 5 can be made out of the first annual appropriation, to wit, that which commences on the 1st day of July, 1887, and terminates on the 30th of June, 1888.

(5) The intention of Congress was to make quarterly payments, not in advance, but at the end of each quarter.

Section 5, proviso—March 22, 1888.

"I have been informed that there is no farm connected with the agricultural college in Delaware. The act provides that one-fifth of the amount appropriated can be expended in the creation, enlargement, or repair of a building or buildings for carrying on the work of the station receiving the appropriation. I am in doubt whether, with this qualification, out of the balance of the appropriation a farm could either be purchased or rented. Another question in my mind is as to the competency of the legislature which was in session at the date of the passage of the act to accept as it assumed to do, of the provisions of the act, the ninth section of which provides that 'Payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasury.'"

Section 5, proviso—February 3, 1893.

"It was held by my predecessor that the fund provided by the act of March 2, 1887, should not be used for the purchase or rent of land. In this opinion I am inclined to concur, for though there is no express prohibition, the whole tenor of the restrictive clauses as to lands and buildings, not only in this act, but in the cognate acts of July 2, 1862, and August 30, 1890, would seem to support it."

Section 6—April 24, 1888.

At the end of the present fiscal year, to wit, June 30, any portion of the \$15,000 which shall have been received, up to and including the payment made on the 1st day of July, which is unexpended, or which may not be necessary to pay claims under contracts made for the benefit of said agricultural station must be deducted from the next annual appropriation, as specified in said sixth section.

Section 6—August 2, 1888.

The fiscal year commences on the 1st day of July, corresponding with the fiscal year of the Government.

An agricultural station entitled to the benefits of said appropriations made by Congress can anticipate the payment to be made July 1, and make contracts of purchases prior to that time, if it shall be necessary to carry on the work of the station. Of course, no portion of said appropriations paid in quarterly installments can be drawn from the Treasury unless needed for the purposes indicated in the act; and so much of what is so drawn as may not have been expended within the year must be accounted for as part of the appropriation for the following year.

Section 8—January 30, 1888.

The State of New York ought to designate whether to the college or to the station, or to both, it desires the appropriation to be applied. The eighth section of the act seems to authorize the State to apply such benefits to experimental stations it may have established as it desires.

Where there are no experimental stations connected with the colleges, the legislatures of such States must connect the agricultural experiment station with the colleges already established under the act of July 2, 1862; there is no authority in the act authorizing the establishment of agricultural experiment stations independent of said colleges.

The act contemplates that where stations have already been established disconnected from the colleges, the legislatures of such States may make such provisions in regard thereto as they may deem proper; but it does not authorize the establishment of stations except in connection with the colleges that were at that time or might thereafter be established under the act of July 2, 1862.

Section 8—February 14, 1888.

Where there is an agricultural college or station which may have been established by State authority, and is maintained by the State, the eighth section of the above act would authorize the State to designate the station to which it desired the appropriation to be applied, whether to one or more, or all, and the Secretary of the Treasury should make the payment under the appropriation to whichever one the State might designate.

Sections 1 and 8—February 15, 1888.

(1) When an agricultural college or station has been established under the act of July 2, 1862, each college is entitled to the benefits of the provisions of said act (i. e., of March 2, 1887).

(2) In a State where an agricultural college has been established under the act of July 2, 1862, and agricultural stations have also been established, either under the act of July 2, 1862, or by State authority, before March 2, 1887, the legislature of such State shall determine which one of said institutions, or how many of them, shall receive the benefits of the act of March 2, 1887.

(3) If the legislature of any State in which an agricultural college has been established under the act of July 2, 1862, desires to establish an agricultural station which shall be entitled to the benefits of said act, it must establish such station in connection with said college.

Proviso to sections 1 and 8—December 7, 1888.

It is within the power of the legislature of any State that has accepted the provisions of said act of March 2, 1887, to dispose of the amount appropriated by Congress for said station to either one or all of the agricultural colleges or stations which may have been established in said State by virtue of either the provisions of the act of July 2, 1862, or the provisions of said eighth section of the act of March 2, 1887.

The whole responsibility rests upon the State legislature as to how the fund appropriated by Congress shall be distributed among these various institutions of the State, provided there is one or more agricultural colleges with which an agricultural station is connected, or one or more agricultural stations.

Section 8—January 28, 1889.

The act of the State of Georgia in authorizing the governor to receive the fund to which the State may be entitled under the act of March 2, 1887, is not in conflict with any of the provisions of said act. If a State has established an agricultural college or station under the act of July 2, 1862, or if it has established an agricultural station in connection with said college, as provided in the eighth section of the act of March 2, 1887, the legislature can authorize some person or persons to receive the money donated by the Government and direct its application in such way and manner as it seems best to carry out the objects and purposes of said acts of Congress to either the colleges or the station, or to both.

Section 9—February 4, 1888.

It appears by the statement of Representative Blount that there was a session of the legislature of the State of Georgia after the passage of the act and before the first payment became due, October 1, 1887, and which did not adjourn until after that time. That being the case, under the proviso of the section, the governor of

the State can not assent to that payment, which was to be made October 1, 1887. The legislature having adjourned before the second payment became due, without accepting the provisions of the bill, no further payment can be made to said State until the legislature thereof shall have accepted the provisions of the bill. You will observe the language of the proviso, "that payment of the installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature," applies, certainly, only to such installments as become due before the final adjournment. The idea seems to be to give the legislature the full time before it adjourns to accept the provisions of the bill or not; but it is plain to my mind that only such payments as become due before the adjournment of the legislature can be accepted by the governor of the State.

RULINGS OF THE DEPARTMENT OF AGRICULTURE ON THE WORK AND EXPENDITURES OF AGRICULTURAL EXPERIMENT STATIONS.¹

In connection with examinations of the work and expenditures of the agricultural experiment stations established in accordance with the act of Congress of March 2, 1887, under authority given to the Secretary of Agriculture by Congress, questions have arisen which have seemed to make it advisable to formulate the views of this Department on certain matters affecting the management of the stations under that act. The statements given below have therefore been prepared, to cover the points which seem to require special attention:

EXPENDITURES FOR PERMANENT SUBSTATIONS.

This Department holds that the expenditure of funds appropriated in accordance with the provisions of the act of Congress of March 2, 1887, for the maintenance of permanent substations is contrary to the spirit and intent of said act. The act provides for an experiment station in each State and Territory, which, except in cases specified in the act, is to be a department of the college established under the act of Congress of July 2, 1862. The objects of the stations, as defined in the first-mentioned act, are evidently of such a character as to necessitate the services of scientific and expert workers. Most of the lines of investigation named in the act are general, rather than local, and involve scientific equipment and work. It is obviously the intent that the stations established under this act shall carry on important investigations which shall be of general benefit to the agriculture of the several States and Territories. The sum of \$15,000, which is annually appropriated by Congress under this act for each station, is only sufficient to carry out a limited number of investigations of the kinds contemplated by the act.

As the work of the stations in the different States has developed, it has been found necessary to limit, rather than expand, the lines of work of the individual stations. Thorough work in a few lines has been found much more effective and productive of more useful results than small investigations in numerous lines. When we consider the nature of the investigations, the amount of money provided for the work of each station, and the fact that the act expressly provides for only a single station in connection with each college, it becomes very clear that expenditures such as are necessary to effectively maintain permanent substations ought not to be made from the funds granted by Congress to the States and Territories for experiment stations. The maintenance of permanent substations as a rule involves the erection of buildings and the making of other permanent improvements. The sums of money which can be expended for permanent improvements under the act of Congress aforesaid are so small that it is clear they were not intended to meet the needs of more than one station in each State and Territory.

When the legislature of a State or Territory has given its assent to the provisions of the act of Congress of March 2, 1887, and has designated the institution which shall receive the benefits of said act, it would seem to have exhausted its powers in the matter. The responsibility for the maintenance of an experiment station under said act devolves upon the governing board of the institution thus designated. If the legislature of the State or Territory sees fit to provide funds for the equipment

¹ U. S. Dept. Agr., Office of Experiment Stations Circular 29.

and maintenance of other experiment stations and to put them under the control of the same governing board, well and good, but this does not in any way diminish the responsibility of the board to administer the funds granted by Congress in accordance with the provisions of said act.

The wisdom of Congress in limiting the number of stations to be established in each State and Territory under the aforesaid act has been clearly shown by the experience of the few States and Territories which have attempted the maintenance of substations with the funds granted under said act. The expense of maintaining substations has as a rule materially weakened the central station, and the investigations carried on at the substations have been superficial and temporary. It is granted that in many States and Territories more than one agricultural experiment station might do useful work, and in some States more than one station has already been successfully maintained; but in all these cases the State has given funds from its own treasury to supplement those given by Congress. It is also granted that experiment stations established under said act of Congress and having no other funds than those provided by that act will often need to carry on investigations in different localities in their respective States and Territories, but it is held that this should be done in such a way as will secure the thorough supervision of such investigations by the expert officers of the station and that arrangements for such experimental inquiries should not be of so permanent a character as to prevent the station from shifting its work from place to place as circumstances may require, nor involve the expenditure of funds in such amounts and in such ways as will weaken the work of the station as a whole.

As far as practicable, the cooperation of individuals and communities benefited by these special investigations should be sought, and if necessary the aid of the State invoked to carry on enterprises too great to be successfully conducted within the limits of the appropriation granted by Congress under the act aforesaid.

PURCHASE OR RENTAL OF LANDS FOR AGRICULTURAL EXPERIMENT STATIONS.

This Department holds that the purchase or rental of land by the experiment stations from the funds appropriated in accordance with the provisions of the act of Congress of March 2, 1887, is contrary to the spirit and intent of said act. The act provides for "paying the necessary expenses of conducting investigations and experiments and printing and distributing the results. * * * *Provided, however,* That out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement, or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding 5 per centum of such annual appropriation may be so expended." The only reference to land for the station in the act is in section 8, where State legislatures are authorized to apply appropriations made under said act to separate agricultural colleges or schools established by the State "which shall have connected therewith an experimental farm or station." The strict limitation of the amount provided for buildings and the absence of any provision for the purchase or rental of lands, when taken in connection with the statement in the eighth section, which treats the farm as in a sense a necessary adjunct of the educational institution to which the whole or a part of the funds appropriated in accordance with said act might in certain cases be devoted, point to the conclusion that it was expected that the institution of which the station is a department would supply the land needed for experimental purposes and that charges for the purchase or rental of land would not be made against the funds provided by Congress for the experiment station. This conclusion is reinforced by considerations of a wise and economic policy in the management of agricultural experiment stations, especially as relating to cases in which it might be desirable for the station to have land for experimental purposes in different localities. The investigations carried on by the stations in such cases being for the direct benefit of agriculture in the localities where the work is done, it seems only reasonable that persons or communities whose

interests will be advanced by the station work should contribute the use of the small tracts of land which will be required for experimental purposes. Experience shows that in most cases the stations have had no difficulty in securing such land as they needed without expense, and it is believed that this may be done in every case without injuriously affecting the interests of the stations.

EXPENDITURES BY AGRICULTURAL EXPERIMENT STATIONS FOR CARRYING ON FARM OPERATIONS.

This Department holds that expenses incurred in conducting the operations of farms, whether the farms are connected with institutions established under the act of Congress of July 2, 1862, or not, are not a proper charge against the funds appropriated by Congress for agricultural experiment stations in accordance with the act of Congress of March 2, 1887, unless such operations definitely constitute a part of agricultural investigations or experiments planned and conducted in accordance with the terms of the act aforesaid under rules and regulations prescribed by the governing board of the station. The performance of ordinary farm operations by an experiment station does not constitute experimental work. Operations of this character by an experiment station should be confined to such as are a necessary part of experimental inquiries. Carrying on a farm for profit or as a model farm, or to secure funds which may be afterwards devoted to the erection of buildings for experiment station purposes, to the further development of experimental investigations, or to any other purpose however laudable and desirable, is not contemplated by the law as a part of the functions of an agricultural experiment station established under the act of Congress of March 2, 1887. Section 5 of that act plainly limits the expenditures of funds appropriated in accordance with said act to "the necessary expenses of conducting investigations and experiments and printing and distributing the results."

FUNDS ARISING FROM THE SALE OF FARM PRODUCTS OR OTHER PROPERTY OF AN AGRICULTURAL EXPERIMENT STATION.

This Department holds that moneys received from the sales of farm products or other property in the possession of an agricultural experiment station as the result of expenditures of funds received by the station in accordance with the act of Congress of March 2, 1887, rightfully belong to the experiment station as a department of the college or other institution with which it is connected, and may be expended in accordance with the laws or regulations governing the financial transactions of the governing board of the station, provided, however, that all expenses attending such sales, including those attending the delivery of the property into the possession of the purchaser, should be deducted from the gross receipts from the sales and should not be made a charge against the funds appropriated by Congress.

LIMIT OF EXPENDITURES OF EXPERIMENT STATIONS DURING ONE FISCAL YEAR.

This Department holds that expenses incurred by an agricultural experiment station in any one fiscal year to be paid from the funds provided under the act of Congress of March 2, 1887, should not exceed the amount appropriated to the station by Congress for that year, and especially that all personal services should be paid for out of the appropriation of the year in which they were performed, and that claims for compensation for such services can not properly be paid out of the appropriations for succeeding years. The several appropriations for experiment stations under the aforesaid act are for one year only, and officers of experiment stations have no authority to contract for expenditures beyond the year for which Congress has made appropriations.

This is plainly implied in the act aforesaid, inasmuch as section 6 provides that unexpended balances shall revert to the Treasury of the United States, "in order that the amount of money appropriated to any station shall not exceed the amount

actually and necessarily required for its maintenance and support." The annual financial report rendered in the form prescribed by this Department should in every case include only the receipts and expenditures of the fiscal year for which the report is made.

EXPENDITURES BY AGRICULTURAL EXPERIMENT STATIONS FOR A WATER SYSTEM
TO BE CHARGED UNDER "BUILDING AND REPAIRS."

This Department holds that expenditures by agricultural experiment stations from the funds appropriated in accordance with the act of Congress of March 2, 1887, for the construction of wells, cisterns, ponds, or other reservoirs for the storage of water, and for piping, and other materials for a system of storing and distributing water, are properly charged, under abstract 18 in the schedule for financial reports prescribed by this Department, as being for improvements on land which have hitherto been held to come under the head of "building and repairs." The fact that a water system may be a necessary adjunct of certain experimental inquiries does not affect the case, inasmuch as the limitations on expenditures for improvements contained in section 5 of the act of Congress of March 2, 1887, expressly stipulate that these improvements shall be such as are necessary for carrying on the work of the station.

EXPENDITURES BY AGRICULTURAL EXPERIMENT STATIONS FOR MEMBERSHIP IN
AGRICULTURAL AND OTHER ORGANIZATIONS.

This Department holds that membership fees in associations and other organizations are not a proper charge against the funds appropriated by Congress in accordance with the act of March 2, 1887, except in the case of the Association of American Agricultural Colleges and Experiment Stations, which is held to be an essential part of the system of experiment stations established under said act.

THE BORROWING OF MONEY TO PAY THE EXPENSES OF AGRICULTURAL EXPERIMENT
STATIONS.

This Department holds that experiment station officers have no authority to borrow money to be repaid out of appropriations made under the act of Congress of March 2, 1887, and that charges for interest can not properly be made against funds appropriated under that act.

A. C. TRUE, *Director*.

Approved:

J. STERLING MORTON, *Secretary*.

WASHINGTON, D. C., *March 10, 1896.*

THE USE OF EXPERIMENT STATION FUNDS FOR COLLEGE PURPOSES.

This Department holds that no portion of the funds appropriated by Congress in accordance with the act of March 2, 1887, can legally be used either directly or indirectly for paying the salaries or wages of professors, teachers, or other persons whose duties are confined to teaching, administration, or other work in connection with the courses of instruction given in the colleges with which the stations are connected or in any other educational institution; nor should any other expenses connected with the work or facilities for instruction in school or college courses be paid from said fund. In case the same persons are employed in both the experiment station and the other departments of the college with which the station is connected a fair and equitable division of salaries or wages should be made, and in case of any other expenditures for the joint benefit of the experiment station and the other departments of the college the aforesaid funds should be charged with only a fair share of such expenditures.

Respectfully,

A. C. TRUE, *Director*.

Approved:

JAMES WILSON, *Secretary*.

WASHINGTON, D. C., *October 25, 1897.*

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